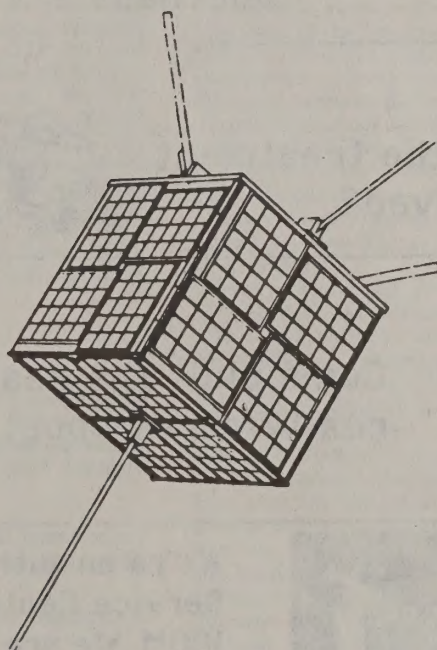
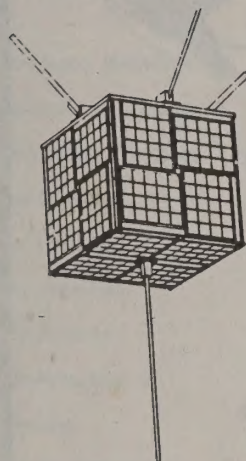


AUTO CALL



MARCH 1990



MICROSATS LAUNCHED

See Page 31

"NO CODE" LICENSE PROPOSAL

See Page 7



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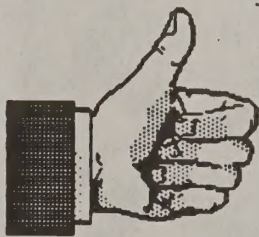
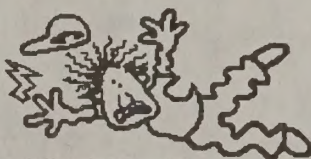
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AUTO-CALL

Official Journal of the Foundation for Amateur Radio

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T-MARC, The Middle Atlantic FM & Repeater Council
Vienna Wireless Society
Washington Adventist Amateur Radio Association
Washington Area Young Ladies' Amateur Radio Club
Washington Radio Club
Woodbridge Wireless, Inc.

EDITORIAL

Ask and Ye shall Receive.

We asked. We received. We are overwhelmed!

Thank you very much for the wonderful response to our request for filler items and more general input to the Auto-Call. We received some excellent material and we guarantee it will be appearing in future issues. We just got so much copy this month there wasn't any room for "fillers." We had to fit things together like a jig saw to cram it into 64 pages! And there is much in store for future issues. A hearty, "Thank You" to all who made contributions.

First of all, we have reports from an all time high of 19 clubs and there are five special features in this issue. We are particularly honored to have TMARC choose Auto-Call as the distribution vehicle for its semi-annual TMARC Repeater Directory. Our regular columnists continue their popular articles, there is hot news on the FCC proposed Rule Making on the "No Code" license and a fine story on the outstanding accomplishments of AMSAT in launching the tiny new Microsats. We, indeed, have a wealth of talent available in this area. Please keep your input coming.

We are still battling the computer problems. There are so many parameters involved, it is a little bit like playing with a Rubik's cube! We have the new Word Perfect 5.1 word processing program, some new Glyphics soft fonts (that are generated as graphic in RAM and are slower than molasses in - well, a normal January!). The old Bit Stream soft fonts won't work properly (yet) in the new 5.1 program, and you have a "Piper Cub pilot" trying to run a "Boeing 747 program." Some "cockpit errors" are inevitable. We are still suffering some after-effects of the big power outage problem, too. It has been a real battle and we felt we were wearing out our welcome with Frosty - W3PT & Ed - WD4LCO, who have given so much time and help over the past several months. We finally called on the professionals at JAW Computer Service and, again, we are hoping I'll get smarter and the next issue will go together faster and look better.

Ethel, K4LMB

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Coming Events

1990

- Feb. 25 **Vienna Winterfest, Vienna, Virginia.**
- Feb 25 Fayetteville, WV 13th Annual Hamfest
- March 4 York Springfest; Dover Firehall, Dover, Pennsylvania (See Page 60)
- March 17 **QCWA/FAR Annual Spring Banquet**
For All Area Amateurs. Advance Reservations Required
 Speaker will be Bruce Brown, WA9GVK
 Deputy Director for Architecture
 Joint Tactical Command and Control
 Defense Communications Agency (JTC3A)
 See page 33
- Mar 31-Apr 1 **BARC Greater Baltimore Hamboree and Computerfest**
 Fairgrounds Timonium, Maryland See flyer page 50
- March 31 Charleston, WV Hamfest/Computer Show
- April 6 QCWA Baltimore meeting
- April 27-29 **Dayton Hamvention, Dayton, Ohio**
- April 27 Dayton Chapter QCWA Annual Banquet, Neil's Heritage House. See page 58
- May 13 Carroll County Computer Fest and Hamboree. Carroll County Agricultural Center, Westminster, Maryland. See flier next month.
- May 19 Mayland Mobileers Special Event activity from WA3PJQ aboard the submarine U.S.S. TORSK. To honor the submarine service. See page 42
- May 27 **Maryland FM Association Hamfest, Friendship, MD**
- May 27 * Roanoke, VA 30th RVARC Mayfest
- June 8-10 ARRL National Convention, Kansas City, Mo
- June 3 **Manassas Hamfest, Manassas, VA**
- June 17 * **Frederick Hamfest, Frederick, MD**
- July 7 * Jackson's Mill Hamfest/ State Radio Council, Jackson's Mill, West Virginia
- July 21 * Bluefield Hamfest, Bluefield, WV
- July 29 **BRATS HAMFEST, Timonium, MD** (See Page 59)
- Aug. 5 * **Winchester 41st Hamfest, Berryville, VA**
- Sept 9 * **Foundation For Amateur Radio Hamfest,**
Gaithersburg, Maryland
- Sept 29 * TARA Hamfest, Huntington, WV
- Oct 14 * **CARA 13th Annual Hamfest, Howard County, MD**
- Oct 12-13 QCWA National Convention, Kansas City, Mo
- Please keep Auto-Call advised of important Coming Events.

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Moving Again

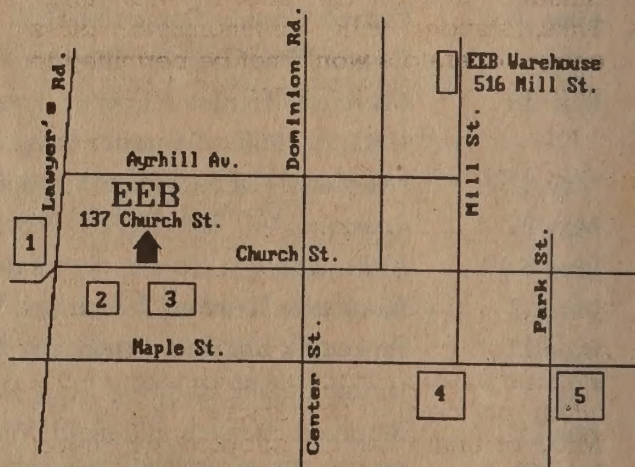
Another Grand Opening - February 26

Watch our ads for Details

- ☐ SUPER SIZE Ham Shack
- ☐ MORE and BIGGER Displays
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>>> help us celebrate our new store <<<

- ☐ Free Drawing for door prizes - no purchase required
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3. Vienna Office Supply
4. Lowe's Lumber
5. Southern States

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FCC HIGHLIGHTS

by Bill Grenfell W4GF

The "No Code" license has been proposed in an FCC Notice of Proposed Rule Making, PR Docket 90-85, adopted on February 8. The proposal would establish an Amateur Operator license to be known as the COMMUNICATOR Class which would require no knowledge of the International Morse code as a qualification therefor. The written exam would be equivalent to the Novice and Technician examinations, with 5 additional questions.

The Communicator class would be incorporated into a simplified licensing structure containing four ascending steps: Communicator, General, Advanced, and Amateur Extra classes. Current Technician and Novice class operator licenses would be grandfathered indefinitely, with no new licenses issued. Existing licenses could be modified or renewed. The proposed transmitter power would be 200 watts PEP. Operating privileges would include all emission types but would be limited to Amateur frequencies above 222.0 MHz. Thus, stations with Communicator class control operators would not be permitted to transmit on the 2 & 6 meter VHF bands.

The Commission is requesting comments on all aspects of the proposal. Initial Comments are due by August 6, 1990, and Reply Comments by September 7.

On January 4, 1990, the FCC granted a one-year extension of the ARRL's request which had permitted certain Amateur Radio stations to operate under automatic control when on certain frequencies below 29.7 Mhz., or until rules are adopted, whichever is shorter. The purpose is to afford Amateurs a good idea what the operating parameters of unattended HF digital operation should be. "...the League has filed a petition for rule making with the FCC seeking permanent provisions for automatic RTTY and packet operation within certain HF segment." The FCC has not yet assigned an RM (Rule-Making) number to the petition.

"On October 11, FCC Special Services Division Chief Robert H. McNamara wrote to a number of individual Amateurs seeking information and comments on phone patches, information bulletins and over-the-air telegraphy practice. "The letter requested information and insight that could help bring a resolution to 'the unfortunate continuing over-the-air dispute that takes place on the Amateur 20 meter band'...a dispute ... which is jeopardizing international goodwill --- a fundamental principal of the rules for the Amateur service in the United States..." Most of the Amateur net-works operating on 20 meters answered...as did many individual hams. "Some thought phone patches should be eliminated. "Several blamed the FCC for not enforcing the rules better.

"Many thought the problem was basically a squabble between unruly Amateurs. "The FCC has now evaluated the responses and another letter has been mailed to those organizations utilizing the 20 meter ham band on a continuing basis. "McNamara specifically asked nine network managers to band together and work out the problem. "He wants their plan to resolve future difficulties by July 1."

The licensee of WA4UTY "...says that the present FCC regulations regarding operator (user) station identification is inadequate to protect the license of a system (repeater) trustee and is petitioning the FCC for more stringent rules. He notes that with the present rules "...a repeater user remains legally unidentified to the control operator for up to a ten minute period during which the control operator has been repeatedly held responsible for the unidentified user's transmissions which are being retransmitted through a system for which the control operator is responsible." He asks FCC to revise its Part 97 rules to of a repeater at: "the inception of a communication where the Amateur's signal is being retransmitted by a station in repeater

FCC Report - Continued

retransmitted by a station in repeater service" " Thus far, no action has been taken by FCC on the...request."

A Carefree, Arizona, Amateur licensee, WATWOC, "...has paid a \$750 fine for willfully and maliciously interfering with Amateur radio communications. This action "...came after the FCC received complaints about a ham who followed others from one frequency to another and jammed various nets and repeaters with offensive sound effects." FCC's Douglas, Arizona, office staff monitored the interference and traced it to the Amateur's residence. "Such rule violations are also prosecutable against unlicensed individuals, and, if an individual is convicted, could also result in a fine of up to \$5000."

"The FCC released a Public Notice on December 27, 1989, stating that they do not plan to establish a schedule in the foreseeable future for reassignment of any Amateur call sign. "Based upon that fact, and the fact that the "N" series of Group "C" (1 by 3) call signs are nearly exhausted in some radio districts, we will go to Group "D" (2 by 3) for the Technician/General operator class." Group "C" call signs will first run out in the 6th district where there are less than 2,000 left. "As in the past, the Commission will not honor any request for a specific call sign or format. All such requests are denied."

THE LATEST CALLS ISSUED FOR THE STATESIDE, ALASKA AND HAWAII CALL AREAS WERE:

AS OF 1 DEC 1990

GENERAL/

EXTRA	ADVANCED	TECH	NOVICE
NZ1W	KC1RO	N1HDM	KA1USB
WU2S	KE2QQ	N2KCM	KB2IVC
NX3L	KD3QE	N3HQY	KA3VJU
AB4RY	KN4BN	N4XMC	KC4NHA
AA5PA	KI5AB	N5POH	KB5LBH
AA6SJ	KK6CO	N6XBF	KC6HED
AA7CP	KF7YN	N7NFX	KB7IZJ
WX8O	KF8CO	N8LOU	KB8ILU
WM9T	KE9TG	N9JCB	KB9DPW
WY0H	KF0GP	N0LGU	KB0FLF
HAWAII	AH6KC*	NH6VG	WH6CGF
ALASKA	AL7LP*	NL7TA	WL7BVY

* EXTRA CLASS ALSO ASSIGNED
FROM THIS GROUP

"In a Request for Declaratory Ruling, the ARRL has asked the FCC to give special treatment to licensed hams when states try to regulate possession and use of radio receivers. "The League says it is aware of 'several dozen' instances of radio seizure and criminal arrest suffered by licensed Amateurs in recent months. "State and local authorities may not regulate radio because the Congress has reserved that power to the federal government. "Local governments may, however, enact zoning and building code regulations that determine where and how an antenna may be placed. "They may also enact nuisance laws. "Municipal bodies sometimes abuse this authority, restricting or prohibiting lawful ham operation on the basis of subjective aesthetics or interference. "These abuses led the FCC to override local anti-ham regulations in the celebrated PRB-1 decision. "In many cases PRB-1 has prevented cities and towns from ordering hams off the air..." "ARRL is now asking for the same type of federal action, to exempt hams from onerous state laws..."

"...Frederic K. Stark, KA2YLZ, from West Taghkonik, New York has been fined \$1000 for pirate radio operation on 1010 kHz. The FCC received a complaintthat alleged an unauthorized station was rebroadcasting US Armed Forces Radio Network programs. Using mobile DF equipment, FCC located the illegal station at the Stark residence.

END-OF-MONTH LICENSE TOTALS

OCT 1989 NOV 1989

EXTRA	49,883	50,070
ADVANCED	101,725	101,904
GENERAL	116,797	116,944
TECHNICIAN	113,786	114,507
NOVICE	84,780	85,022
TOTALS	466,971	468,447

(Material marked by "quotes" was obtained from the January, 1990 issues of the following publications: The ARRL Letter; W5YI Report; WESTLINK Report; and current FCC Rules).

American Radio Relay League Report

By John Swafford -- W4HU

This ARRL Report provides a brief summary of information published in the ARRL LETTER and other reports. The LETTER provides timely news of interest to active Radio Amateurs. Any League member may subscribe to the ARRL LETTER.

=====

FLAWLESS LAUNCH YIELDS SIX OSCARS; NEW ERA IN AMATEUR SATELLITE COMMUNICATION BEGINS.

On Sunday, January 21 at 0135 UTC, the "brilliant plume" coming from the first stage of an Ariane V-35 rocket marked the beginning of a picture-perfect launch of the next generation of OSCAR satellites. At that time Uosats D & E and the four Microsats (Pacsat, Webersat, LUSat and DOVE) began their journey into space from Kourou, French Guiana. An attempt to launch 24 hours earlier had to be "scrubbed" due to thunderstorms near the launch site.

The AMSAT Launch Information Network Service (ALINS) covered the launch and the events surrounding it. ALINS was heard around the world with rebroadcasts by WIAW, WA3NAN, W5RRR and a host of other HF and VHF stations on virtually all amateur bands.

The rocket reached orbit velocity of 7 kilometers/second just before 16 minutes into the flight as it passed east of Bermuda. At 20 minutes, 4 seconds, Uosats D and E were deployed becoming OSCAR 14 and 15. One minute later the four Microsats were successfully deployed, becoming OSCAR 16-19 respectively.

Ariane Launch Control and AMSAT staff applauded as the amateur satellites were deployed in this "very historic moment" for AMSAT and Amateur Radio.

In a letter to AMSAT President Doug Loughmiller, KO5I, ARRL Executive Vice President Dave Sumner, K1ZZ, congratulated AMSAT for the successful orbiting of the four Microsats. "What the AMSAT team has done," Dave said, "reflects credit on the entire Amateur Radio community. The timing couldn't be better as we begin preparation for the World Administrative Radio Conference to be held in 1992.

"AMSAT can justifiably take pride in providing the Amateur Radio community with a new communications capability. The American Radio Relay League shares in your pride and is pleased to have had the opportunity of contributing to the project."

In confident anticipation of a successful launch, the ARRL Board of Directors on January 20 passed the following resolution:

"The ARRL Board of Directors, on behalf of the officers and members proclaim for all to note that:

"Whereas the amateur satellite program represents a major source of technological advancement within the Amateur Radio Community and

"Whereas the amateur satellite program has a long history of providing useful communications resources to Radio Amateurs worldwide and

"Whereas the amateur satellite program is a major element of the public service, education, and scientific research being conducted via Amateur Radio today and

"Whereas the amateur satellite program represents the resourceful, creative, innovative, and volunteer spirit of Radio Amateurs everywhere and

"Whereas 1990 will see the launch of eight new OSCAR satellites including six on a single launch vehicle with the Microsat/Uosat launch and

"Whereas 1990 will see the construction of an additional OSCAR satellite by AMSAT Italy and AMSAT North America begin and

"Whereas 1990 will mark the beginning of the Phase III-D construction activity by a broad base of international amateur participants

"Therefore be it resolved, that in recognition of the contribution of the amateur satellite program to the Amateur Radio service and of the significant events which are to occur during the course of the year

ARRL Report - Continued

1990 within this discipline of amateur radio, we hereby declare:

"1990 the Year of the Amateur Satellite Program."

ARRL BOARD ADOPTS BUDGET, ELECTS OFFICERS. The ARRL Board of Directors met in Hartford January 19-20 to consider reports of its officers and committees, elect officers for two-year terms, and conduct the other business of the League. The Board regularly meets twice a year, in January and July.

As reported above, the Board declared 1990 "The Year of the Amateur Satellite Program" in recognition of the many important space-related events expected to occur this year. Other actions included ordering continued preparation for the 1992 World Administrative Radio Conference, and continued study of improved methods of spectrum management in Amateur Radio.

A 1990 budget for ARRL was approved that anticipates more than \$9.7 million in revenues and expenses for the year. For the first time in nine years, and in recognition of the 50% inflation that has occurred since then as well as the need to maintain adequate financial reserves for future challenges to Amateur Radio privileges, the Board adopted an increase in ARRL dues. Effective April 1, the regular annual dues rate will go from \$25 to \$30. The senior-citizen rate will go from \$20 to \$24, and youth rates also will increase 20%. The special rate for family members and blind members will increase by \$2, to \$4.

Larry Price, W4RA, was reelected as ARRL President. Also, reelected were James McCobb, K1LLU, as Treasurer, and David Sumner, K1ZZ, as Executive Vice President and Secretary. There was some realignment of League Vice Presidents, with George Wilson, W4OYL, elected as First Vice President. Additional Vice Presidents elected were Rod Stafford, KB6ZV, and Jim Haynie, WB5JBP. Jay Holladay, W6EJJ, was elected International Affairs Vice President. Tod Olson, K0TO, retired from the Board after 16 years of service as Vice Director, Director and Vice President.

The Board recognized the long service of Chuck Bender, W1WPR, and Laird Campbell, W1CUT, who recently retired from the ARRL Headquarters staff.

Elected to the Executive Committee for 1990 were Directors Butler, W4RH, Mendelsohn, WA2DHF, Quiat, AG0X, and Turnbull, W3ABC. President Price, Vice President Wilson, and Executive Vice President Sumner also serve on the Executive Committee.

In other actions, the Board reaffirmed its earlier position opposing power privileges scheduled to take effect later this year, and renewed its instruction that a way be found for new club station licenses to be issued and for the holders of expired call signs to reobtain them. A field organization station appointment, Local Government Liaison, was created to better represent Amateur Radio interests at the local level. Endorsements to the 5-band DXCC Award for 17 meters and 12 meters were approved; application details will be announced later. Studies of a number of issues and proposals were ordered by various committees and the staff.

The complete Minutes of the meeting will appear in March QST.

ANNUAL TAPR MEETING. The next Tucson Amateur Packet Radio (TAPR) annual meeting will be held at the Inn At The Airport, 7060 South Tucson Boulevard, Tucson AZ, on February 24-25.

"Networking," the packet radio buzzword for the early '90s will be one of the main topics at the meeting. Discussions will also be held by members of the Microsat team describing the construction, prelaunch and launch activity of the Microsats and their Uosat cousins.

It is expected that many manufacturers of packet equipment will attend the meeting with displays and demos. All the new TAPR kits will be shown and discussed.

Those wishing to be on the speaking agenda should advise the TAPR office as soon as possible. The Sunday session should be concluded near noontime for those planning afternoon departures.

ARRL Report - Continued

MORE GOOD NEWS FOR REPEATERS/REMOTE BASES WITH PHONE PATCH.

Karl Pagel, N6BVU, advises that GTE California, Inc. has agreed to provide telephone service to amateur repeaters with phone patch facilities at residential rates. In a January 9 letter to Karl, Karen Shaw, Vice President of Customer Relations for GTE said that they are making the change in the rate retroactive to October 1, 1989.

The policy will apparently extend to all GTE serviced repeater or remote base owners countrywide. Amateur radio repeater groups who are GTE customers may hear from a GTE customer representative explaining their new monthly service rate. Shortly after that, they will receive a one-time credit on their telephone bill. Any group not receiving the call by January 30 should contact their local business office.

AMATEUR TELEVISION VIDEO TAPE CONTEST.

The Western Washington Amateur Television Society (WWATS) and Amateur Television Quarterly (ATVQ) are sponsoring a contest for ATV enthusiasts world-wide. All licensed amateurs are eligible except members and families of WWATS and ATVQ.

Contest entries should be on consumer grade video tapes 15 minutes or less in duration. They must be Amateur Radio related and may have been made anytime since May 1988. Entries will be reviewed and winners will be selected by WWATS appointed judges. Winners will be announced and prizes awarded at the 1990 Dayton HamVention. Entries must be post marked by March 1.

For more details on the contest and to obtain an official entry form write to: WWATS/ATVQ Video Contest, 353 S. 116th St, Seattle, WA, 98168.

CRRL NEWS. CRRL President Tom Atkins, VE3CDM, has retired to devote more time to his family and to IARU work. Tom was recently elected Secretary of IARU Region 2 and will be taking a seat on the world-wide IARU Administrative Council. Effective January 1 the new CRRL President is Bruce Balla, VE2QO.

Bob Benson, Q.C., VE2VW, will soon be retiring as CRRL General Counsel. Bob has served CRRL -- and ARRL before that -- with distinction for some sixteen years. In that time, Bob did much effective behind-the-scenes work for individual amateurs and their counsels, often helping with RFI and antenna tower cases.

It is expected that Tim Ellam, VE6SH, of Calgary will be appointed as the new CRRL General Counsel at the May 1990 CRRL Board meeting.

CRRL AND CARF HOLD PRELIMINARY MERGER MEETING.

A preliminary merger meeting between CRRL and CARF was held in Cobourg, Ontario on November 25, 1989. The main purpose of this meeting was to set the timetable and agenda for future meetings. The committee agreed to recommend to both its Boards of Directors that a single Canadian organization be formed.

PAST DELTA DIVISION VICE DIRECTOR GRAHAM HICKS, W5IHP, SK.

ARRL is sad to report the passing of Graham Hicks, W5IHP. First licensed in 1939, he was ARRL Vice Director of the Delta Division from 1961-1964. He was active in establishing and maintaining emergency communications for the Gulf Coast, especially during hurricane emergencies and was also responsible for bringing in many new hams.

A staunch supporter of the ARRL, his life was a monument to the things he considered important, and Amateur Radio was near the top of that list.

GREECE CONGRATULATES ARRL ON 75TH ANNIVERSARY.

The Radio Amateur Association of Greece (RAAG) has sent a letter of congratulations to ARRL President Larry Price, W4RA, on the ARRL's 75th anniversary. The text is as follows:

"On behalf of the council and members of RAAG, I have the pleasure and privilege to extend our most sincere congratulations for the 75th anniversary of ARRL and what it represents in Amateur Radio.

"The success of Amateur Radio world-wide owes much to the tireless efforts of

ARRL Report - Continued

members and staff of the League since its founding in 1914.

"Kindest personal regards and best wishes for many more anniversaries to follow -- Dimitri Tzelatidis, SV1RL, President, RAAG"

ARRL DIRECTOR RESIGNS. Citing his recent heart attack and the need to concentrate on a successful recovery, Rush S. Drake, WTRM, has submitted his resignation as Director of the ARRL Northwestern Division effective December 31, 1989. William R. Shrader, W7QMU, has assumed the post of Director for the remainder of the current term.

Rush served as Vice Director of the Division for two years, and Director for three.

ARRL President Larry Price, W4RA, has appointed Mary Lou Brown, NM7N, to complete Bill Shrader's term as Vice Director.

MICROSAT AND UOSAT FREQUENCIES - DEPLOYMENT ORDER. The following are the Microsat and UoSat listening frequencies and modes listed in order of deployment. Information is presented in this order: Spacecraft, OSCAR number, Frequency (MHz), and Mode.

- *UoSat D, UO-14, 435.070,
9600 bps AFSK AX.25
- *UoSat E, UO-15, 435.120,
9600 bps AFSK AX.25
- *PACSAT, PO-16, 437.025,
1200 bps PSK AX.25
- *DOVE, DO-17, 145.825,
1200 bps AFSK AX.25 (FM)
- *WEBERSAT, WO-18, 437.075,
1200 bps PSK AX.25
- *LUSAT, LO-19, 437.150,
1200 bps PSK AX.25
- *LUSAT/CW, LUSAT, 437.125,
12 WPM CW telemetry

HINTS FOR MICROSAT/UOSAT RECEIVING ANTENNAS. Drawing on previous studies of ground antennas for low earth orbit satellites and operating experience, Dick Jansson, WD4FAB, has designed and theoretically analyzed performance of an antenna which is thought to be optimum for microsat work. Essentially, the antenna is a fixed, dual band J pole with two feed lines.

Details of the antenna design and analysis will be published in the February 1990 issue of the AMSAT-NA Journal. Users of AO-13 class satellite stations using the gain antennas to track microsats will experience in some cases up to 50 db of excess link margin. The nature of the PSK transmission mode from the pacsats is such that excessive signal can actually make acquisition and demodulation more difficult.

In any case, there is plenty of signal available to cover losses incurred from the use of fixed antennas and polarization mismatches.

Microsat users, particularly those intending to set up automatic mail forwarding or data capture installations are encouraged to use fixed antennas so as to reduce automatic system maintenance and wear to a minimum. Automated ground stations requiring significant maintenance are likely not to be able to support much long term use. For fixed antennas, Jansson recommends a vertical arrangement, such as the dual J-Pole design, over turnstile-reflectors and other traditional horizontal or circular designs.

Simple, low gain vertical antenna radiation patterns closely match that required by low orbit satellites at various slant ranges and corresponding elevation angles. This is particularly true near the horizon where the most gain is needed and the satellites spend most of their visible time. The drawback is linear polarization, but Microsat downlinks are circularly polarized so that the polarization mismatch is typically only 3db.

Turnstile-reflector antenna response drops off near the horizon where it is most needed and has peaks at higher elevations where low orbit satellites spend relatively little time.

For further details and dual J-Pole construction information, look for WD4FAB's article in the upcoming AMSAT-NA Journal. If you already have a simple vertical (quarter wave ground plane or vertical dipole) in place, it should be adequate.

FOUNDATION FOR AMATEUR RADIO
Volunteer Examiner Cooperative

Nancy Draheim - NK4U
3513 Old Post Road, Fairfax, VA 22030
(703) 691-0078

SCHEDULE OF EXAMINATIONS
1990

IMPORTANT NOTE: If you now have a Technician class license which was acquired prior to March 21, 1987, have a copy of it available when you decide to upgrade.

EXAMS

- Mar. 3 University of Maryland ARC (College Park MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld N3FI (301) 963-4008
- John Tyler Community College (Richmond, VA) (W5YI VEC) Walk-in
Contact: Albert Bailey, N4RPI (804) 233-6461 or
 Phil Giella, KC4DSF (804) 561-3020
- South Peninsula ARC (ARRL VEC)
Contact: Ed Brummer, W4RTZ (804) 898-8031
- Mar. 9 Pentagon ARC (Pentagon) (W5YI VEC) Call for Escort
Contact: David Boyd, K9MX (703) 659-6241
- Mar. 10 Maryland Mobileers ARC (Laurel VEC) Pre-registration requested.
Contact: Nancy or Dean Alley, NT3Z/NS3V (301) 761-7115
- Mar. 11 Columbia Union College (Takoma Park Campus) (Laurel VEC)
Contact: John Muller, W3QF (301) 564-0178
- Mar. 18 BRATS (Baltimore, MD) (Laurel VEC) Walk-in
Contact: Steve Silberman (301) 547-7123
- Mar. 24 Laurel ARC (Laurel, MD) (Laurel VEC)
Contact: John Creel, WB3GXW (301) 572-7124
- Mar. 30 Pentagon ARC (Stafford, VA) (W5YI VEC) Walk-in
Contact: Dave Boyd, K9MX (703) 659-6241
- Apr. 7 University of Maryland ARC (College Park MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld, N3FI (301) 963-4008
- John Tyler Community College (Richmond, VA) (W5YI VEC) Walk-in
Contact: Albert Bailey, N4RPI (804) 233-6461 or
 Phil Giella, KC4DSF (804) 561-3020
- Williamsburg Area ARC (Williamsburg, VA) (ARRL VEC)
Contact: Andrew Swanson, WJ4X (804) 253-2811

Continued

Volunteer Examiner Cooperative - Continued

- Apr. 14 PROS (Salisbury, MD) (Laurel VEC) Walk-in
Contact: John Rupprecht, K3NOQ (301) 749-7444
- April 22 Antietam Radio Assn. Amateur Club (Hagerstown, MD) (ARRL VEC)
Contact: Ken Picone, KC3TT (301) 824-3519
- April 28 Laurel ARC (Laurel, MD) (Laurel VEC)
Contact: John Creel, WB3GXW (301) 572-7124
- May 5 University of Maryland ARC (College Park MD) (W5YI VEC) Walk-in
Contact: Scott Rosenfeld N3FI (301) 963-4008
- John Tyler Community College (Richmond, VA) (W5YI VEC) Walk-in
Contact: Albert Bailey, N4RPI (804) 233-6461 or
Phil Giella, KC4DSF (804) 561-3020
- Portsmouth ARC (Portsmouth, VA) ARRL VEC
Contact: Art Thiemens, AA4AT (804) 484-2857
- Middletown VE Team (Middletown, VA) (ARRL VEC)
Contact: Walt Quitter, NC4B (703) 869-5241
- May 12 Maryland Mobileers ARC (LARC VEC) Pre-registration requested.
Contact: Nancy or Dean Alley, NT3Z/NS3V (301) 761-7115
- May 19 Hampton Roads Radio Assn. (Hampton, VA) (W5YI VEC)
Contact: Bill Runyon, N4BDH (804) 487-8611

+++++

While most examinations are offered on a walk-in basis,
pre-registration is desirable in all cases.

Certificates of successful completion for theory tests
are not always accepted. Check with the contact person
for the examination you wish to take.

If you are upgrading from Technician class license acquired prior to March 21, 1987
a copy of your license may be required as proof that you are grandfathered
for Element 3B (General theory)

NOTE: All examinations require that you submit:
Copy of your current Amateur Radio license (bring original)
Completed FCC Form 610.

Check for appropriate examination fee.*

Maximum fee has been raised to \$4.95.

Fees of individual VEC may vary.

ARRL Exam fee is \$4.95

W5YI Exam fee is \$4.95

Laurel Exams are still free.

Mountain VEC Novice Exams free

All other Mountain VEC Exams \$2.00

This schedule of examinations appears each month in Auto-Call Magazine
Sponsored by the Foundation for Amateur Radio
Please advise NK4U of your examination schedules.

Training Classes

Robert Armstrong, WA4SQL

44 South French Street, Alexandria, VA 22304

(703) 751-2294

Novice Classes, starting 22 February, Gaithersburg, MD. Sponsored by Montgomery Amateur Radio Club. Classes will be held on Monday and Thursday, 6:30 p.m. at Gaithersburg High School. Contact Ken Nichols, KA3KGL (301) 977-5405

Novice Classes, starting 14 March, Arlington, VA. Sponsored by Arlington Amateur Radio Club. American Red Cross Building, 4333 Arlington Blvd. Classes will be held on Wednesday nights at 7:00 p.m. and will run approximately 10 weeks. For further information and registration, phone Fred Bardsley, WD4DHW (703) 533-0372

Novice Classes, starting 19 March, Camp Springs, MD. Sponsored by Southern Maryland Amateur Radio Club. Meets weekly on Mondays at 1900 hours for approximately 10 weeks. Classes will be held at the Church of the Nativity off Manchester Drive in Camp Springs, MD. For information and registration phone WA3YUV at (301) 888-1388 or KF3T at (301) 372-8322.

Training Classes, all grades through Extra. Starting March 26, Vienna, VA. Sponsored by the Vienna Wireless Society. Meets every Monday night at 7:30 p.m. at the Vienna Community Center and will run for 10 weeks. Classes are free and open to anyone. For further information contact Paul Wilkins, AB4CY (703) 560-2779

GENERAL INFORMATION

Alexandria Radio Club	Contact Harry Jones - N4CWP (703) 521-4624
Anne Arundel	Contact Tony Young - WA3YLO (301) 262-1917
Antietam Radio Assn.	Contact Ken Picone - KC3TT (301) 824-3519 after 5:00 p.m.
Arlington ARC	Contact Fred Bardsley - WD4DHW (703) 533-0372
Baltimore ARC	Contact Phone 1-800-HAM TALK
BRATS Amateurs TV Society	Contact Bill Self (301) 669-0149
Chaverin, Inc.	Contact Bob Teitel - W3IDT (301) 654-3484
Fauquier ARC	Contact Bill Mills - KC5PF (703) 937-4090 (H), 818-3955 (O)
Frederick ARC	Contact Steve Bauman - W3FOA (301) 662-4552
Laurel ARC	Contact Frank Treadwell - K3LDE (301) 498-2213
MADRAS	Contact Larry Ziecheck - N3GKZ (301) 530-8646
Montgomery ARC	Contact Ken Nichols - KA3KGL (301) 977-5405
Mount Vernon ARC	Contact John Forrest - WZ4A (703) 971-3905
NASA/Goddard ARC	Contact Vikki Gigante - KA3PVS (301) 249-2609
Pentagon ARC	Contact David Boyd - K9MX (202) 697-0630
Rock Creek ARA	Contact Walt Ramsey - AK3B (301) 949-3954
Shenandoah Valley ARC	Contact Guy Black - W4PSJ (703) 722-4952
Southern Maryland ARC	Contact Vic Curtis - WA3YUV (301) 888-1388
Sterling Park	Contact Art Nevins - WA4NTP (703) 437-9382
Tri County ARC	Contact Al Sines - WA3QGA, Box 710, College Park 20740
Vienna Wireless	Contact Paul Wilkins - AB4CY (703) 560-2779
Washington Adventists	Contact Henry Miller - W3BWN (301) 474-7376
Woodbridge Wireless	Contact Loyd Davis - K8EI (703) 360-0248

Please keep the Training Chairman advised of any changes in the names and telephone numbers of the contacts for club training programs.
Please list training programs far enough in advance for effective publicity.

Third Annual
York Springfest

The Third Annual York Springfest (Ham/Computer) will be held

Sunday, March 4
At the Dover Firehall
Dover, Pennsylvania

FOOD REFRESHMENTS VE EXAMS AWARDS
Blacktop Parking

Inside Tables \$10

Tailgaiting Free

Registration \$4.00

Unlicensed spouse and children under 12 Free

General Admission 8:00 a.m. Talk-in on 146.37/97 and 147.93/33

For Advance Information and Registration

Call (301) 239-3878

or write

YORK SPRINGFEST
P.O. Box 316
New Freedom, PA 17349-0316



PUBLIC SERVICE REPORT

Hank Black - N3ESR

Material for the PUBLIC SERVICE REPORT can be left on the N4QQ PBBS (145.03,.05 or via DCA3) addressed to N3ESR, called over the telephone by modem on arrangement or mailed to Public Service Report, 105 North Van Buren St., Rockville, Maryland 20850-1860. Deadline for receipt of material is the fifth of the month.

VIRGINIA EOC GETS ARES/RACES STATION

A three position permanent operating station for ARES/RACES was commissioned on Friday, January 5, 1990, at the Virginia Primary Emergency Operations Center (EOC), a continuously manned emergency communications center serving the Commonwealth of Virginia. It is operated and maintained by personnel of the Virginia Department of Emergency Services, and is located on the outskirts of Richmond, Virginia.

The EOC serves as the disaster nerve center during emergencies, and is manned by Emergency Services personnel for use as a major communications center. One of the primary exercises involving the EOC is an annual readiness drill at one of Virginia's two Nuclear Power Generating Plants. The Federal Emergency Management Agency (FEMA) monitors and evaluates the readiness of the power plant personnel, as well as the emergency response of the State and local governments, and volunteer organizations. One of these volunteer organizations is the Radio Amateur Civil Emergency Service (RACES).

RACES is governed by both Federal Communication Commission (FCC) and FEMA guidelines, and is set up as the amateur radio service's civil defense communications during periods of local, regional, or national civil emergency. RACES operation is authorized only by the FCC after it is requested by a local, state, or federal official, and then is strictly controlled.

The Amateur Radio Emergency Service is the "pre-declared" emergency communications team that stands ready to provide communications for disasters before RACES is activated by Federal Order.

Virginia has two Nuclear Power Generating Plants. The Surry plant is located in Surry County, across the James River from Williamsburg. The North Anna plant is located at Lake Anna. Federal agencies require a readiness exercise to be conducted at each Nuclear Power Plant every two years. Exercises are held on alternating years at each plant in Virginia.

Virginia RACES provides the primary fixed formal message means of radio communications among the State and local government EOCs and various action points, and also provides the secondary communications means for wide-area direction and coordination of emergency and disaster operations. If telephone communications fail or become overloaded, then RACES becomes the primary communications means for operations.

RACES has proved valuable to the Virginia Emergency Operations Plan, and has thus been provided a permanent position at the Virginia Primary EOC. The RACES station consists of a multi-mode HF operating position, a VHF/UHF FM voice operating position, and a

Public Service Report - Continued

VHF packet operating position. HF operation is provided by a Kenwood TS-440S/AT, and antennas for the 80/75, 40, and 20 meter amateur bands.

In order for the equipment and station to be properly exercised, operated, and maintained, Virginia RACES Emergency Coordinator Steven P. Czaikowski, WB4ZTR, appointed E. Earl Bishop, N4EXQ, as Virginia EOC RACES Radio Officer.

The station will be exercised regularly on the Virginia Section traffic network, and will be used for all ARES/RACES drills and exercises requiring communications with Richmond. The result is that Virginia now has a fully equipped ARES/RACES communications station at the EOC, ready to provide necessary communications in time of disaster or emergency.

-Submitted by Steve, WB4ZTR

For further information on ARES or RACES in Virginia, contact: Steven P. Czaikowski, WB4ZTR, Virginia Section Emergency Coordinator, Virginia RACES Emergency Coordinator, 155 Buckingham Drive, Stephens City, Virginia 22655. Telephone: (703) 869-3674 - Home, (703) 465-5152 - Office.

ARES PROVIDES HOSPITAL COMMUNICATIONS

Saturday morning, January 20, 1990, was the day that the Winchester Virginia Medical Center would move from its old location to its new home. The move provided a unique opportunity to show the Winchester community that Amateur Radio was a valuable resource.

Press coverage was extensive. Television crews, radio and newspaper reporters, and a video tape crew hired by the Hospital to document the move were everywhere.

ARES members began setting up equipment at 6:00 AM to prepare for their assignments. Net control stations were established at both the old and new hospital command posts. Communication stations were set up at the four exits from the old, and four entrances to the new facility.

Four ARES "shadows" for the Hospital Move Coordinators were in place by 7:00 a.m. Dr. Jack Helm, AB4BY, served "double-duty". He was the physician in charge of patient relocation, and served as his own shadow! An ARES member was placed at the ambulance staging area and with the stand-by ambulance.

It was learned that two unanticipated Ham operators would be on site: Wes McDonald, KB4FKG, was the RN in charge of the Emergency Department at the new hospital, and Ron Lee, WD8CNM, would be in one of the ambulances as a Rescue Squad Captain.

One patient was to be moved slightly earlier than the planned start time of 8 a.m., so that the press would be able to cover the first patient moved to the new facility.

Steady communications began at 7:30 a.m. The responsibility of ARES was to track the patients from their departure exit to their arrival entrance so that their safety was insured.

The importance of amateur radio communications was enlarged by the fact that the medical channel radios were being moved that morning from the old to the new hospital, leaving the hospitals without ambulance communications.

There were no regular communications among all 22 ambulances provided by the 15 rescue squads involved with the move. Many did not have shared medical channel frequencies. A stand-by ambulance was placed near the route mid-point of the 1.5-mile trip.

(Continued)

Public Service Report - Continued

An ARES member (N4MCS) was stationed in the stand-by ambulance to track the progress of each transport vehicle. Since direct, communications with all 22 ambulances was not possible, there was a need to be able to locate any transport vehicle at any given time.

Communications were started on 146.46 MHz simplex. It was quickly determined that a single frequency was too crowded. The two hospital facilities were each given their own net. The new hospital switched to 146.58 MHz, and 146.46 MHz was used for internal communications within the old hospital, as well as between the two net control stations.

Information communicated by amateur radio included the departure times of each ambulance (named MASH units for the move) and their arrival times at each location, and 8 communications affecting the safety of the move to each shadowed Move Coordinator.

Amateur radio provided a communications service that is unprecedented in the Winchester area. The move, in turn, provided a fantastic opportunity for the hospital, the press media, local governments, and the public to see what a valuable resource a trained, prepared Amateur Radio Emergency Service can do for a community.

Placing the importance of this move in perspective, Channel 3 television station WHSV in Harrisonburg, Virginia, began their 11 p.m. news with the hospital move story, and included scenes of two ARES members in action, background radio transmissions, and included an on-camera interview with Steve Czaikowski, WB4ZTR, who coordinated the ARES communications.

The opportunity to participate in events such as the Winchester Medical Center move provided an opportunity for amateur radio to better prepare for emergencies. Lessons learned from these "exercises" form the basis from which valuable action plans are developed.

Every amateur radio operator interested in emergency communications should register with his local ARES EC so that he can be given the opportunity to participate and train. Training played an important part in the preparation for the event.

ARES members should equip themselves with an "ARES Kit" consisting of basic tools, cables, connectors, tape, and other items necessary to try to prevent communications from being interrupted.

The image of amateur radio to the public was enhanced on Saturday, January 20, 1990, thanks to the efforts of the following Frederick County ARES members, who are NOT necessarily listed in order of importance (they should ALL be on the top line!): Ed Helvey, WA2FMT, Walt Quitter, NC4B, George Stein, NJ3H, Paul Machlan, WA5MET, Ben Dutton, N4OEF, Patricia Czaikowski, KM4PB, Steve Cuccio, NB3O, Bill Armstrong, KF4HP, Cliff Kitts, KD4TZ, Ed Altvater, N4PHT, John Anastas, KJ4EK, Sharon Hiller, N4MCS, JoAnn Blaker, WB2CMV, Lon Seward, WB4KSG, Rob Kinsley, NT4S, Steven Czaikowski, II, N4RSF, Paul Blaker, NI3T, and Jack Helm, AB4BY.

-Submitted by Steve, WB4ZTR

FAIRFAX ARES HELPS RED CROSS AT APT FIRE

Approximately 1400 hrs on Tuesday, January 23rd, the Fairfax Service Center of the American Red Cross notified Ivan, KA4NVW, of an apartment fire at the Grand View Apartments on Carling Springs Rd. Information provided indicated that three apartments had been totally destroyed and three buildings were to be evacuated, totaling 40 families or 103 people. This was due to a gas leak that could not be shut off. Most likely, the Red

Public Service Report - Continued

Cross would have to open a shelter. Ivan called N4SCK who started calling radio operators for both the disaster scene and the Fairfax Service Center.

By 1500 hours, Glenn, KA4REI, was at the disaster site. N4SCK was operating W4PAY at the Fairfax Service Center. At this point it was decided to use the NVFMA 146.79 W4LBL repeater until the type of coverage could be determined. Other repeaters could provide for local coverage of the area in question. Use of the 146.79 wide area repeater during the rush hour was not desirable.

At 1545 hours the decision had been made to start setting up a shelter at the Glenn Forest Elementary School. Bob, KK4GB, was enroute to the school. Radio operations were shifted to the AMRAD 147.21 WD4IWG repeater. Several messages were passed relating to the preparation of dinner for the victims and relating to the opening of the shelter.

By 1800 hours it had been decided that a decision would be made at 2200 hours whether to keep the shelter open or to put the victims up in a motel. This depended upon the number of people involved who needed shelter.

ARES had to prepare for radio operations around the clock, if needed. A schedule was prepared by Bob, N4SCK, Ray, N3CLE, Joe, WB4WZZ, and Ivan, KA4NVW, who had arrived at the Red Cross to relieve N4SCK, who was due at work.

Due to some difficulty communicating between the Red Cross and the shelter, operations were shifted to the NVFMA repeater on 146.91 MHz (W4XG/R). At 2100 hours KK4GB was relieved at the shelter by Eddie, KC4EFJ, and Donna, N4URL. The operation at the disaster scene was supposed to have been shut down but was kept open until 2200 hours and still manned by KA4REI.

At 2200 hours only one evacuee had arrived in need of shelter. A decision was made to close the shelter operation. By 2230 hours, before the operation was completely secured, five more evacuees arrived. A request had been made for cots and blankets. Shelter operations were being moved to the apartment complex where empty apartments would be used by the evacuees. Joe, WB4WZZ, offered to transport the cots and blankets to the scene and was talked-in by Glenn, KA4REI.

I would like to thank all of the above mentioned operators as well as Clay, N4ECI, and Art, KB4ZJ, who were scheduled to operate the midnight shift but were not needed due to the operation shutting down. I would also like to thank the NVFMA and AMRAD for the use of their repeaters during the event. The cooperation of all of the amateurs who normally operate on the repeaters that were used was greatly appreciated.

-Submitted by Bob Lewis, N4SCK.

MS SUPER CITIES WALK IS COMING AMATEUR RADIO OPERATORS NEEDED

The National Multiple Sclerosis Super Cities Walk is scheduled for Sunday, April 1st. It will take place over a route going from Avenel Park in Potomac, Maryland to the North Parking Lot at the Pentagon in Virginia. The event is a fund raiser based on individual walkers and the pledges they obtain.

Radio operators will be needed to help with communications over the 20 kilometer Super Cities Walk. The route runs along the bike path on Falls Road to the Chesapeake and Ohio Canal tow path down to Key Bridge over to North Lynn Street in Rosslyn and down Route 110 to the Pentagon.

Last year's walkathon remained on the C & O Canal between Georgetown University and Great Falls. With the change in course this year and other needs, such as, bus coordination, more amateur radio operators are needed. Instead of one net control

Silent Keys

Zolie Bogar - W3CJM passed away on February 6th, one day after his 77th birthday. Born in Hungary, Zolie came to the U.S. with his parents when he was a small child. He developed an early interest in radio and got his first Amateur license in 1929. He went on to become a Studio Engineer in radio and TV stations in Pennsylvania and Maryland/DC. In 1954 he came to the Voice of America in Washington. He retired from VOA in 1969 and devoted more time to his numerous interests - photography, painting, playing the violin and, of course, Amateur Radio. He identified his call sign with the phonetics "Contented Junk Man," appropriate in view of his collection of radio equipment over the years. He is survived by his wife, Emma, of Layhill, Maryland.

(Reported by Emma Bogar)

Public Service Report - Continued

frequency there will be at least two, if not three. As planning continues for the administration of the event, communication requirements are being decided and assignments being listed.

If you participated last year or would like to participate in this year's MS Super Cities Walk public service activity, please call Hank Black, N3ESR, at (301) 340-8595. There are needs for operators and equipment including portable repeaters.

MONTGOMERY COUNTY APPOINTS RACES OFFICER

On Tuesday, January 30th, Kathleen Henning, Program Coordinator, Emergency Management, Montgomery County, Maryland, installed Howard Lenhert, K3IOG, as Radio Officer replacing Hank Black, N3ESR, who resigned on October 31, 1989.

Ms. Henning read the letter of appointment from County Executive Sidney Kramer to the Montgomery RACES group during their quarterly meeting. At this meeting Ms. Henning gave a briefing on the current status of several Emergency Management programs. She reviewed the program milestones and Annex "A" of the County's Emergency Operations Plan.

The meeting also included some training using a video tape entitled "Disaster Incident Command System." Other matters brought to the attention of RACES members included upcoming exercises with the Civil Air Patrol, COMMEEX with Maryland Emergency Management, and the Hospital Radio Net. Ms. Henning asked that several committees continue their ongoing work and solicited participation of the membership to serve on those committees in addition to some new ones.

- PUBLIC SERVICE CALENDAR -

Mar. 19 National Capital ARES Council Meeting
Contact Ken Williams, N3AQQ, for details (202) 363-8364

Apr. 1 National MS Super Cities Walk
Contact Hank Black, N3ESR, (301) 340-8595

Apr. 28 Half One Hundred
Contact Bob Lewis, N4SCK, (703) 830-3495

Public Service Report - Continued

FINAL COORDINATION BY TMARC

Final coordination was issued for a proposed repeater on 449.825 MHz, callsign WD4KHP/R, near Springfield, Virginia, and for Muddy Hole Repeater Associations's proposed 146.865 MHz repeater, callsign N3HQJ/R, at Tyaskin, Maryland. A re-coordination was issued for Maryland Mobileers' 146.805 repeater at the new site in Millersville, Maryland.

As a service to the amateur community, The Middle Atlantic FM and Repeater Council (TMARC) is issuing through AutoCall a bi-annual copy of the TMARC Directory.

(See insert pages starting on page 27)

Lift out the centerfold page and you will find the TMARC Directory behind it.

Pull out the Directory and keep it for handy reference.

With each issue of AutoCall, new and re-coordinations will be published. Items of interest to the amateur community will also be included. In this issue look for the Packet Radio Frequency Status for the TMARC area.

PACKET RADIO FREQUENCY STATUS - BAND PLANS

The Middle Atlantic FM and Repeater Council (TMARC) is the frequency coordinator for the area consisting of MD, DE, DC, No. VA (north of 36 degrees North latitude, and northeast of U.S. Highway 33), and the five eastern most counties of West Virginia (Berkeley, Hampshire, Hardy, Jefferson, and Morgan). TMARC coordinates all repeaters with this geographical area.

TMARC does not coordinate individual packet radio stations, and there are no known organizations coordinating packet activity in the TMARC area. However, there are specific subbands for packet radio use in the TMARC coordination area.

Frequency subbands currently specified for packet radio use in the TMARC area are as follows:

50.59 to 50.79 MHz - shared packet and other digital radio modes.

Currently recommended as 20-KHz channels centered on 50.60 through 50.78 MHz.

Note that 50.70 is listed as the National RTTY Calling Frequency, and that there is an existing packet network on 50.61 MHz.

145.0 to 145.100 MHz, exclusive packet use.

Currently in use as 20-KHz channels from 145.01 thru 145.090 MHz.

145.5 to 145.680 MHz, shared packet and voice.

Currently in use as 20-KHz channels from 145.51 thru 145.67 MHz.

145.68 to 145.700 MHz, packet and RTTY.

Currently in use as a 20-KHz channel on 145.69 MHz.

221.0 to 221.02 and 221.06 to 221.08 MHz, exclusive packet use.

Currently in use as two 20-KHz channels centered on 221.01 and 221.07 MHz.

220.05 to 221.45 MHz, exclusive packet use.

Currently recommended as 100-KHz channels centered on 220.55 thru 220.95 MHz.

430.0 to 430.7 and 430.8 to 431.0 MHz, exclusive packet use.

Currently recommended as 100-KHz channels centered on 430.05 thru 430.65 plus 430.85 and 430.95 MHz.

440.9125 to 441.0895 MHz, exclusive packet use.

Currently recommended as 25-KHz channels centered on 440.925 thru 441.075 MHz.

Continued on page 40)

SRAM-015
(Soviet Radio Amateur Movement)
Dexter Anderson, W4KM

*[Rough, summary translations from Soviet Amateur Press]
[Comments by translator are in square brackets]*

[from November 1989 issue of RADIO magazine]

"EVERYDAY RADIOCOMMUNICATION"

[27 MHz CB-type service announced for the USSR]

Many readers ask what equipment and frequencies can be used for simple everyday radiocommunication, for example by tourists, mountain-climbers, automobile drivers, etc.

The Chief of the State Telecommunication Inspectorate of the Ministry of Communication of the USSR, replies as follows.

By decision of the State Radiofrequency Commission of the USSR of 30 December 1988, frequencies have been allotted for portable receiving-transmitting radio sets. For all intents and purposes every citizen of the USSR will, after receiving permission from the State Telecommunication Inspectorate, be able to buy and use a radio set operating on 27 MHz.

"RAS IS LOOKING FOR VOLUNTEERS"

*[An appeal issued by the Federal Coordinating Council
of the Radioamateur Emergency Service (RAS)
attached to the Federation of Radio Sport of the USSR]*

The disaster in Armenia *[the earthquake of 7 December 1988]* showed clearly that we can't do without a rescue service.

The Union of Red Cross and Red Crescent Societies of the USSR is setting up an All-Union Rescue Center.

The RAS *[Radiolyubitel'skaya Avariynaya Sluzhba - Radioamateur Emergency Service]* has been established, on a voluntary basis, by the Federation of Radio Sport of the USSR. Its basic purpose is to provide immediate assistance in cases of natural disasters and industrial accidents.

A. Panormov, UV3DHH, senior engineer, Central Radio Club Named After E. T. Krenkel, has been elected temporary director of the Federal Coordinating Council, which has committee status in the Federation of Radio Sport.

RAS works in close contact with Red Cross and Red Crescent societies, national civil defense organizations, and rescue organizations.

In order to establish a network of RAS support stations throughout the country, we ask radio amateurs to provide, without delay, information on collective stations that can be included in RAS operations.

SRAM 015 -- Continued

These collective stations must meet the following criteria:

Obligatory

1. Uninterrupted on-the-air operation for 14 days, with obligatory relief of, and complete rest for, operators.
2. At least three operating positions (2 basic, 1 spare).
3. Simultaneous operation from two operating positions on two separate bands or on the same band.
4. All-band operation.
5. Efficient antennas and spare antennas.
6. Contest experience.
7. Reliable telephone line.

Desirable

1. Independent power source.
2. RTTY capability.
3. Computer availability and intention to master PACKET RADIO, SSTV, and AMTOR within a short time.
4. Ability to notify team members rapidly.

Operator Requirements

- A high degree of personal responsibility.
- Good knowledge of CW.
- Sufficient knowledge of foreign languages to transmit RAS messages.

RAS is also interested in radioamateur collectives and in individual operators with shortwave operating experience under field conditions and having mobile equipment. Amateurs with mountain-climbing or tourist [hiking?] experience, with corresponding equipment, are of special interest. If in addition you have a physician's or a medical assistant's diploma, you'll constitute a golden reserve for the RAS.

We suggest that everyone consider his own situation and register with the RAS. Fortunately, emergencies and natural disasters don't occur every day, and no one will go to a hot spot immediately after registering.

Naturally, the RAS doesn't earn any money, and for this reason needs contributions and financial support. The "RADIO CENTER" ["RADIOTSENTR"] Association Attached to the Central Radio Club of the USSR Named After E. T. Krenkel' has kindly agreed to make its account available for RAS' needs, and also to contribute a portion of its income to the RAS.

Remember! By contributing to the Radioamateur Emergency Service you become involved in the noble deed of helping people in distress.

Address: Radioamateur Emergency Service (RAS), 23 Pokhodnyy Proyezd, 123459 MOSCOW. Stations: UK3A, UK3B, and UK3F.

[From the numbered column "NLD"
("Na lyubitel'skikh diapazonakh" - "On the Amateur Bands")
edited by Boris Grigor'yevich Stepanov, UW3AX.
The "NLD" article bears the same date
as the **SOVETSKIY PATRIOT** newspaper containing it]

NLD-1411, 1 November 1989:

COMPETITIONS [CONTESTS]

Reports on participation in international shortwave and ultrashortwave competitions may be sent directly to the corresponding judges' collegium or via the Central Radio Club of the USSR Named After E. T. Krenkel'.

[Under glasnost', direct mailing of international contest reports is no longer prohibited]

SRAM 015 -- Continued

NLD-1412, 5 November 1989:

COMPETITIONS

Reports on participation in the CQ WW DX CONTEST may be sent to CQ MAGAZINE, 76 NORTH BROADWAY, HICKSVILLE, NY 11801, USA.

CLUB NEWS

RA1QQ/RA0Q is active from the Medvezh'ye [*Bear*] Islands on 14 and 21 MHz, CW and SSB. QSL (PSE SASE) via RA1QX at the address P. O. Box 1, 162600 CHEREPOVETS (Vologodskaya Oblast'). He'll be on the island about 1-1/2 years from RA1QX.

RA1QEG/RW1P operates from the polar station Ust'-Kara, mostly on 14 and 21 MHz CW. Next summer he plans to operate from Baygach Island. QSL via UZ1PWA, P. O. Box 73, 164744 AMDERMA. From UA1QEG.

NLD-1413, 15 November 1989:

CLUB NEWS

The memorial diploma called "Along the Routes of Ancient Sea Voyages" for contacts with RB5FH/MM costs 5 rubles. Proceeds go to the fund for improving the ecology of the Black Sea basin. Apply to P. O. Box 2, 272500 ARTSIZ (Odesskaya Oblast'). QSL cards for RB5FH/MM to same address. From RB5FT.

QSL addresses: UL1K/UA9SAW (9 - 17 September 1989) - P. O. Box 13, 462630 GAY (Orenburgskaya Oblast'); RJ7R, RJ4R/UJ8JV, and RT8U/UJ8JCQ - P. O. Box 1102, 734032 DUSHANBE (from UJ8JCQ); RT6U/UJ8JW (20- and 40-meter bands) - P. O. Box 427-3, 252146 KIEV (from RT4UA); UT4UX/RJ5J, UT4UX/RJ5R, and RT6U/UJ8JW (15-meter band) - P. O. Box 579-1, 252162 KIEV (from UT4UX); UI8LAY/UI1C and UI8IAQ/UI2C (16 - 21 October 1989) - P. O. Box 71, 703000 SAMARKAND (from UI8IAJ).

4J5FV (Oblast' 013) will operate in the CQ WW DX CW CONTEST. [Possible QSL address, given for applying for internal Soviet diploma/certificate:] RRA, P. O. Box 1, 343820 YENAKIYEVO-29 (Donetskaya Oblast'). From RB5IJ.

NLD-1414, 22 November 1989:

DISTANT STATIONS

In late November, a group of Hungarian shortwavers will operate from Laos (XW8DX) and from Spratly Island (1S1DX). From RA3AUU.

NLD-1415, 29 November 1989:

RADIOAMATEUR SATELLITES

The Satellite Radiocommunication Championship of the USSR [*Chempionat SSSR po radiosvyazi cherez ISZ*] will take place from 0000 to 2400 MSK 3 December [*from 2100 GMT 2 December to 2100 GMT 3 December 1989*]. Reports go to Judges' Collegium, MGSTRK, 9/10 Vernadskiy Prospekt, 117311 MOSCOW.

CLUB NEWS

UAOBAN will operate from the island of Golomyanny (Severnaya Zemlya) on all bands, CW/SSB. His QSL manager is RB5FO, P. O. Box 321, 270000 ODESSA. From RB5FO.

(Continued)

SRAM 015 -- Continued

[The following section updates and supplements the one published on page 27 of the January 1990 issue of Auto-Call. It is intended for those who know Russian and want to see for themselves the two source publications for the "SRAM" column. Those considering subscribing to one or both might keep the following in mind. The amateur radio-related material in "SP" is shorter, easier from a language point of view, and considerably more up to date than that appearing in **RADIO** magazine. In addition, "SP" costs less. For these reasons, consideration might be given to subscribing, initially at least, to Sovetskiy Patriot only. A new development is that, effective January 1990, Sovetskiy Patriot will be published once a week rather than twice a week.]

SUBSCRIPTIONS TO SOVIET PERIODICALS -- **RADIO** AND **SOVETSKIY PATRIOT** -- CONTAINING NEWS ABOUT AMATEUR RADIO

Two Soviet periodicals carry news about amateur radio on a regular basis: **RADIO** -- a monthly magazine published jointly by the USSR Ministry of Communication and the military training organization DOSAAF -- and **SOVETSKIY PATRIOT (SP)**, a newspaper published weekly (prior to 1990 twice weekly) by the DOSAAF Central Committee.

RADIO covers what is considered amateur radio in the West, as well as other electronics pursuits included in the broader Soviet definition of amateur radio (radiolyubitel'stvo). Most issues contain a two-page-long column entitled **CQ-U** ("Calling All Soviet Radio Amateurs") and consisting of regular sections on specific amateur radio topics (in the more restricted Western sense) such as VHF/UHF/SHF, QSL routings, and propagation. Publishing delays cause the contents of **RADIO** to be considerably out of date by the time the magazine reaches readers, even in the USSR.

SOVETSKIY PATRIOT, on the other hand, contains less -- but far "fresher" -- amateur radio news, most of it in a serially-numbered column known by the initials **NLD** ("Na lyubitel'skikh diapazonakh" - "On the Amateur Bands"), edited by Boris Grigor'yevich Stepanov, UW3AX.

The firm named below can arrange for subscriptions to Soviet periodicals against payment in US dollars. It has provided consistently good service.

Victor Kamkin Bookstore, Inc.
12224 Parklawn Drive
Rockville, Maryland 20853-1746
TEL: +1 301 881 5973
FAX: +1 301 881 1637

As of mid-1989 (price changes are usually announced in about July each year), annual subscription rates were as follows:

RADIO, by surface, US\$56.00;

RADIO by air, US\$84.00;

SOVETSKIY PATRIOT, available by air only, US\$33.50.

Have Bug - Will Travel

Howard B. Johnson - W4HC

From New Jersey to Valparaiso and return - Summer/Fall 1981.

By the luck of the draw my seagoing assignment was to the break/bulk 12-passenger freighter S/S SANTA LUCIA/KRFC, loading general cargo at Port Newark. Since the previous Radio Officer had departed prior to my arrival, the first few hours aboard were utilized to settle-in and learn the peculiarities of the radio shack - nearly always an interesting experience - usually with a surprise or two... In this case the surprises were, for the most part, pleasant - good quarters, air conditioning that worked, first rate MF/HF radiotelegraph gear, two fine Krupp radars (S & X-band). Since she carried a full complement of 12 paying passengers, there was a bonus in the form of excellent food. Officers and passengers took their meals together and had separate lounges - making for pleasant company, yet retaining some degree of privacy. This vessel was by no means a "love boat" - she was strictly for those seeking mild adventure in the form of camaraderie and sightseeing without the fanfare and "entertainments" usual to the larger cruise ships. Most passengers were dedicated repeat-travellers on cargo ships, well educated and interesting conversationalists with widely varying backgrounds.

Passing Ambrose Light Structure in the approaches to Greater New York Harbor at 1630 Local Time (LT) on the 14th of September, we arrived off the Delaware Capes and took the pilot at midnight 14/15th. The run up Delaware Bay and on to Philadelphia was pleasant and without incident. Arriving at 0745LT, passengers and yours truly were ashore by 0900, for what proved to be an interesting day of sightseeing. After a few hours visiting the obvious tourist attractions of the Revolutionary War period, I gravitate to the harbor area and maritime exhibits for a leisurely and thorough inspection of the USS OLYMPIA which saw action at the Battle of Manila Bay in 1898 when Admiral Dewey commenced operations with his now famous order to the Olympia's captain "You may fire when ready, Gridley". Later, in 1908, the Olympia sailed around

the world as part of the Great White Fleet, showing the flag as part of President Roosevelt's "Walk softly but carry a big stick" policy.

Unfortunately (for the passengers) we made a night transit of the Chesapeake & Delaware canal and arrived at Baltimore's Dundalk Terminal at 0830LT on the 15th. This points out one of the very few "downsides" to cargo ship touring - they tend generally to stick to a schedule that perforce means some of the points of interest are passed during the night. A little known historical fact: The cargo-carrying merchant submarine "Deutschland" called at Baltimore to discharge dyestuffs and drugs in July 1916, after making landfall off the Virginia Capes a few days previously. And, the modern container terminal at Dundalk is located on what was, at one time, Baltimore's municipal airport. While there, I visited Baltimore radio/WMH, the coastal radiotelegraph station and invited the Station Manager/Chief Operator aboard for lunch. WMH is now history, a victim of "Progress" and the gradual shift from CW to digital modes of communication. One of the operators there was a YL who became interested in CB, advanced to obtain a Commercial Radiotelegraph License and later became a permanent member of the staff. Over the years it was my pleasure to handle traffic with her on many occasions.

Over the next few days we called at Norfolk, Charleston and Miami before entering Bahama Strait and rounding Cape Maisi for the run to Panama. During this period the Auto-Alarm sounded twice, with an XXX on 500kHz from Miami USCG Radio NMA pertaining to a fishing vessel aground and later a repeat from Puerto Rico USCG Radio/NMR - now closed, due to "Progress" and budget constraints.

Fortunately (for the passengers) our transit of the Canal was during early evening and night hours - probably the best possible time from a visual point of view. They were all delighted! Radiotelegraph traffic on this first leg of the voyage

Have Bug - Will Travel - Continued

was with Chathamradio/WCC (out on Cape Cod), with Lantanaradio/WOE (now silent), Tamparadio/WPD and with Canalradio/HPN60 which had just taken over from U.S. Navy Radio/NBA. Shifting primary guard to KFS in San Francisco I began the always interesting (and frustrating) task of communicating with various and sundry South American coastal radiotelegraph stations - who, in general, operated in accordance with the "Manana Principle", if, indeed, they were open at all! To illustrate, on more than one occasion, steaming within sight of a large city - Callao, Peru for example - it was necessary to call KFS for relay of "Pilot messages"! The city's coast station OBC3 answered no one for a period of hours, or days, intermittently... Yet they were listed as open to public correspondence 24hrs/day 7/days/week!

Highlights of both the outward and return voyages were calls at Guayaquil, Ecuador to load bananas. Modern state of the art automated cargo-loading equipment lay idle while swarming teams of laborers worked night and day to load the 'nanas by hand. This somewhat archaic return to the Ecuadorean version of "Swedish Steam" became logical when explained: in order to create jobs and therefore ease the lot of many otherwise unemployables, the local authorities recently rejected the "automatic" for the "manual". Loading took essentially the same time either way and the overall operating cost remained approximately the same. A sane approach to a never-ending problem. Our cargo of 100,000 stalks was unloaded at Valparaiso, Chile where we lay for several days.

Ashore in "Valpo" I heard a morse telegraph sounder clacking away in a railway station - using the International Morse Code in lieu of the American Morse Code used in the USA. On later inquiry, it became known that the telegraph was being replaced by printers; however, the country wide change over would likely require several years. Historical note: A sailor's fight in the True Blue Saloon during a Chilean insurrection in 1891 was a direct precursor to the ensuing build up of the American navy, which had been in a serious state of decline. Shortly after this incident, the American public

became aware of our complete lack of armored cruisers or battleships. The ensuing political pressure created jobs and a boost to our economy since shipbuilding facilities in Philadelphia obtained contracts to build capital ships.

After a five day stay we had a partial load of general cargo in twenty foot containers, one or more of which was filled with flower blossoms! Other cargo consisted of fresh fruit, some copper and miscellaneous items. Steaming up the coast of Chile we called at Iquique, well known prior to 1910 as a world-wide source of nitrates used in commercial fertilizer and in the manufacture of explosives. Three to four thousand ton Bark rigged sailing vessels carried this non-time critical commodity to Hamburg and other northern hemisphere ports on-schedule, bettering the time of steam-driven tramp steamers of the day. While steam eventually drove the last commercial sailing vessels from most trade routes, a number of hybrid sail-diesel vessels carry cargo today. There are those who feel "the age of sail is not gone". Current information on this and other projects is available in the literature.

It was on this leg of the voyage that our obsolescent HF/SSB transmitter packed up . . . a shorted HV transformer put us out of business. While the captain felt there was nothing to be done until we returned to the States, I finally convinced him shoreside repair in Callao, Peru might be accomplished. Sure enough, less than fourteen hours after a shore-tech carried the 80-100 pound chunk of iron ashore it was delivered aboard - good as new! Rather than make a "fast fix", they remanufactured the entire unit! From that time on the old-man's opinion of sparks took an upward turn . . . We loaded copper sheets and general cargo, then proceeded to Guayaquil for yet another load of bananas. Remainder of homeward bound voyage was uneventful, and I left the ship on 26 October. Uneventful cruise? Some may say so, but in every port as on every sea, there is a vast storehouse of knowledge to be tapped - history, technology, political development, "you name it" . . . it's there if one takes the time to "listen"!

T-MARC

THE MIDDLE ATLANTIC FM AND REPEATER COUNCIL

Repeater Directory

This listing of T-MARC area repeaters was compiled by the T-MARC Frequency Coordinating Committee from data contained in the frequency coordinating records, and is believed to be accurate as of November 13, 1989.

LOCATION	STATE	CALL	FREQUENCY		REMARKS	SPONSOR
			INPUT	OUTPUT		
Claymont	Del	KC3AM/R	29.560	29.660		KC3AM
Claymont	Del	WB3IKP/R	447.500	442.500	PL-3B (131.8)	Ridge Runners
Delmar	Del	K3NOQ/R	146.325	146.925		Peninsula Radio Operators Society
Dover	Del	W3HZW/R	146.370	146.970		Kent County Amateur Radio Club
Dover	Del	W3HZW/R	147.795	147.195		Kent County Amateur Radio Club
Dover	Del	KA3IDN/R	449.500	444.500		KA3IDN
Felton	Del	WB3ILS/R	444.325	449.325		WB3ILS
Millsboro	Del	K3JL/R	147.675	147.075		Sussex Amateur Radio Association
Millsboro	Del	K3JL/R	223.240	224.840		Sussex Amateur Radio Association
Milford	Del	KC3XQ/R	144.570	145.170	**** NC ****	KC3XQ
Newark	Del	WA3QPX/R	146.100	146.700		Delaware Repeater Association
Newark	Del	AK3A/R	222.440	224.040		04 Repeater Association
Newark	Del	WB2LSP/R	222.940	224.540		WB2LSP
Seaford	Del	WA3VDJ/R	147.900	147.300		WA3VDJ
Seaford	Del	KV3D/R	144.610	145.210	AP	KV3D
Wilmington	Del	WA3QPX/R	146.130	146.730		Delaware Repeater Association
Wilmington	Del	WB3JTK/R	146.355	146.955		Delaware Valley Amateur Radio Society
Wilmington	Del	K3WAJ/R	147.825	147.225	AP	K3WAJ
Wilmington	Del	WB3DPJ/R	222.400	224.000		A.W.A.R.E.
Wilmington	Del	KA3IFV/R	449.950	444.950		Ridge Runners
Adelphi	Md	WB3FRW/R	144.770	145.370		Harry Diamond Lab. Amateur Radio Club
Annapolis	Md	WB4APR/R	144.930	144.930	LNK24	WB4APR
Annapolis	Md	WB4APR/R	439.250	1289.250	P/ATV/LNK24	WB4APR
Annapolis	Md	WB4APR/R	426.250	910.250	ATV/LNK24	WB4APR
Arnold	Md	WB0FQC/R	222.480	224.080	LNK3	WB0FQC
Ashton	Md	K3WX/R	146.400	147.000	AP	Ashton Radio Communications Society, Inc.
Ashton	Md	K3WX/R	448.150	443.150	AP	Ashton Radio Communications Society, Inc.
Baltimore	Md	N3CML/R	29.540	29.640	**** NC ****	Baltimore Radio Amateur TV Society
Baltimore	Md	W3WCQ/R	144.990	144.990	LNK17	W3WCQ (ATV Audio)
Baltimore	Md	W3FT/R	146.340	146.940	LNK2	Baltimore Amateur Radio Club
Baltimore	Md	W3DID/R	147.630	147.030	LNK1/AP	W3DID
Baltimore	Md	W3BPX/R	147.885	147.285		Maryland Telephone Pioneers Radio Club
Baltimore	Md	N3DUV/R	222.920	224.520	P	N3DUV
Baltimore	Md	WA3DZZ/R	223.280	224.880	LNK1/AP	WA3DZZ
Baltimore	Md	W3WCQ/R	426.250	439.250	ATV/LNK17	W3WCQ
Baltimore	Md	WA3VBJ/R	444.075	449.075	P	WA3VBJ
Baltimore	Md	W3FT/R	444.625	449.625	LNK2	Baltimore Amateur Radio Club
Baltimore	Md	W3DID/R	448.400	443.400		Baltimore Radio Amateur Television Society
Baltimore	Md	W3WCQ/R	1253.250	911.250	ATV/LNK17	W3WCQ
East Baltimore	Md	WB3FFV/R	52.350	53.350	P	WB3FFV
East Baltimore	Md	W3PGA/R	147.840	147.240	AP	Aero Amateur Radio Club
East Baltimore	Md	N3GQU/R	222.560	224.160	LNK18	WA3UTC
East Baltimore	Md	WA3ZBI/R	223.040	224.640		Summit Amateur Radio Association
Northeast Baltimore	Md	W3JEH/R	222.240	223.840		W3JEH
North Baltimore	Md	W3FT/R	222.640	224.240	LNK2	Baltimore Amateur Radio Club
North Baltimore	Md	K3SP/R	444.325	449.325	**** NC ****	K3SP
Northwest Baltimore	Md	WA3DZZ/R	144.530	145.130	AP	WA3DZZ
Northwest Baltimore	Md	WA3DZZ/R	223.200	224.800	AP	WA3DZZ
Northwest Baltimore	Md	WA3DZZ/R	223.360	224.960	P	WA3DZZ
Northwest Baltimore	Md	KA3GWC/R	448.200	443.200		KA3GWC
Northwest Baltimore	Md	WA3DZZ/R	448.350	443.350	AP	WA3DZZ
South Baltimore	Md	KS3L/R	223.080	224.680		Summit Amateur Radio Association
South Baltimore	Md	WA3WLO/R	448.550	443.550		WA3WLO
West Baltimore	Md	W3FT/R	146.070	146.670	AP	Baltimore Amateur Radio Club
West Baltimore	Md	WB3ARQ/R	147.945	147.345		MARCOM
West Baltimore	Md	W3HMO/R	222.780	224.380	LNK3	W3HMO
West Baltimore	Md	N3DRB/R	444.475	449.475		N3DRB
West Baltimore	Md	WA3MEJ/R	448.700	443.700	P	WA3MEJ/WA3WLO
Bel Air	Md	WA3PFT/R	146.175	146.775		Harford County RACES
Bel Air	Md	N3CNJ/R	147.720	147.120		N3CNJ
Bel Air	Md	WA3PFT/R	444.775	449.775	P	Harford County RACES
Bethesda	Md	K3YGG/R	144.690	145.290	LNK16	NIHRAC
Bethesda	Md	K3YGG/R	442.925	447.925	LNK16	NIHRAC
Bethesda	Md	KC3OL/R	449.850	444.850	P	KC3OL

LOCATION	STATE	CALL	FREQUENCY		REMARKS	SPONSOR
			INPUT	OUTPUT		
Burtonsville	Md	WA3UTY/R	448.650	443.650	PL-XA (71.9)	M & M (PL sometimes)
Cheltenham	Md	W3PT/R	147.750	147.150		Southern Maryland Amateur Radio Club
Chesapeake Beach	Md	W3ZNW/R	146.385	146.985		Calvert Amateur Radio Association
Chestertown	Md	WA3UJE/R	147.975	147.375		Kent Amateur Radio Society
Cheverly	Md	W3AIP/R	146.010	146.610	AP	Green Mountain Repeater Association
Churchville	Md	N3CNJ/R	222.880	224.480	P	HAREM
Churchville	Md	N3CNJ/R	444.225	449.225		N3CNJ
College Park	Md	W3EAX/R	144.890	145.490		University of Maryland A.R.A.
Columbia	Md	K3CUJ/R	147.735	147.135		Columbia Amateur Radio Association
Columbia	Md	K3CUJ/R	147.990	147.390	AP	Columbia Amateur Radio Association
Columbia	Md	KA3HRJ/R	223.260	224.860		KA3HRJ
Crowsville	Md	WA3PJO/R	146.205	146.805	AP	Maryland Mobileers Amateur Radio Club
Cumberland	Md	K3MWI/R	144.850	145.450	LNK5	Mountain Amateur Radio Club
Cumberland	Md	WA3WSW/R	146.280	146.880		Mountain Amateur Radio Club
Cumberland	Md	KK3L/R	449.000	444.000		KK3L
Damascus	Md	WB2BZR/R	222.940	224.540		WB2BZR
Damascus	Md	K3LNZ/R	222.980	224.580		Potomac Area VHF Society
Davidsonville	Md	W3VPR/R	147.705	147.105	AP	Anne Arundel Radio Club
Davidsonville	Md	N3AKP/R	222.280	223.880	AP	Anne Arundel Radio Club—220 Group
Davidsonville	Md	W3VPR/R	449.400	444.400		Anne Arundel Radio Club
Delmar	Md	N3FJM/R	222.420	224.020	P	N3FJM
Dunkirk	Md	N4EZV/R	907.000	923.000	P/S-S	N4EZV (Dir. Seq. Spd.-Spec.)
Easton	Md	WA3GVI/R	147.645	147.045		Easton Amateur Radio Society
Ellicott City	Md	K3CUJ/R	222.320	223.920		Columbia Amateur Radio Association
Ellicott City	Md	N3EZD/R	222.720	224.320	P	N3EZD
Frederick	Md	W3SOG/R	146.130	146.730	LNK5	Frederick Amateur Repeater Group
Frederick	Md	WA3OHI/R	147.660	147.060		WA3OHI
Frederick	Md	WA3OHI/R	443.750	448.750		WA3OHI
Frederick	Md	W3SOG/R	449.800	444.800		Frederick Amateur Repeater Group
Freeland	Md	K3SP/R	29.520	29.620	LNK4	K3SP
Frostburg	Md	K3CCC/R	147.990	147.390	RTTY	K3CCC
Gambrills	Md	WB4LNM/R	907.100	919.100	PL	WB4LNM
Germantown	Md	WA3HEM/R	146.355	146.955		MARA
Germantown	Md	N3BLB/R	444.675	449.675		N3BLB
Germantown	Md	KV3S/R	449.200	444.200	P	Montgomery College Amateur Radio Club
Glen Burnie	Md	W3VPR/R	147.675	147.075		Anne Arundel Radio Club
Greenbelt	Md	W3ZM/R	146.235	146.835		AMSAT/Goddard Amateur Radio Club
Greenbelt	Md	K3GXF/R	146.280	146.880		Green Mountain Repeater Association
Hagerstown	Md	W3CWC/R	146.340	146.940	AP	Antietam Radio Association
Hagerstown	Md	K3UMV/R	147.690	147.090		Antietam Radio Association
Hagerstown	Md	K3UMV/R	147.975	147.375	P	K3UMV
Hagerstown	Md	WB3DNQ/R	222.680	224.280	P	WB3DNQ
Hagerstown	Md	WA3RGQ/R	442.975	447.975		WA3RGQ
Hampstead	Md	WA3UTC/R	222.520	224.120	LNK18	WA3UTC
Hampstead	Md	WA3UTC/R	444.425	449.425	P/LNK18	WA3UTC
Hanover	Md	NS3V/R	449.950	444.950		NS3V/NT3Z
Harmans	Md	W3YVV/R	448.950	443.950	PL	W3YVV
Havre de Grace	Md	K3UAV/R	146.250	146.850		Chesapeake Bay Radio Association
Havre de Grace	Md	K3UAV/R	448.100	443.100		Chesapeake Bay Radio Association
Hughesville	Md	N7BW/R	144.790	145.390		N7BW
Jarrettsville	Md	WA3DUR/R	443.475	448.475	P	WA3DUR
Jessup	Md	WA3DZD/R	146.160	146.760	LNK6	Maryland FM Association
Jessup	Md	WA3DZD/R	223.160	224.760	LNK6	Maryland FM Association
Jessup	Md	WA3DZD/R	449.000	444.000	LNK6	Maryland FM Association
Kent Island	Md	WA3JGI/R	144.750	145.350	AP-TT908/LNK19	Kent Island Amateur Radio Club
Kent Island	Md	WA3JGI/R	222.680	224.280	LNK19	Kent Island Amateur Radio Club
Kent Island	Md	WA3JGI/R	448.850	443.850	AP LNK19	Kent Island Amateur Radio Club
Lexington Park	Md	WA3UMY/R	52.030	53.030	LNK20	WA3UMY
Lexington Park	Md	K3HKI/R	146.040	146.640	AP	St. Mary's County Amateur Radio Association
Lexington Park	Md	WA3UMY/R	222.300	223.900	LNK20	WA3UMY
Lexington Park	Md	WA3UMY/R	448.050	443.050	AP	WA3UMY
Lutherville	Md	K3VC/R	144.610	145.210	LNK4	K3SP
Lutherville	Md	KB3LA/R	146.295	146.895		KB3LA
Millersville	Md	W3VPR/R	222.960	224.560	P	Anne Arundel Radio Club
Ocean City	Md	W3HTB/R	147.615	147.015		Tri-County Amateur Radio Club
Ocean City	Md	WA3ZNW/R	448.450	443.450	L/LP	WA3ZNW
Odenton	Md	WA3GPC/R	449.700	444.700	LNK7	Central Maryland Repeater Group
Owings Mills	Md	N3CDY/R	444.275	449.275		N3CDY
Potomac	Md	K4IWF/R	147.870	147.270		K4IWF
Rockville	Md	W3RCN/R	144.650	145.250		PARCARA
Rockville	Md	KC3NG/R	144.850	145.450		MADRAS
Rockville	Md	KC3K/R	146.040	146.640	AP	Montgomery Amateur Radio Club
Rockville	Md	N3ESR/R	223.340	224.940		Montgomery Auxiliary Communications Service
Princess Anne	Md	KB3QV/R	146.025	146.825		Peninsula Radio Operators' Society
Salisbury	Md	WA3ROW/R	146.220	146.820		DELMARVA Amateur Radio Club

A LITTLE PACKAGE WITH A BIG PROMISE

On January 21, 1990, along with two UoSAT satellites developed by Radio Amateurs at the University of Surrey, AMSAT-NA launched four Earth-orbiting satellites dedicated to serving the world-wide Amateur Radio community with digital store-and-forward packet radio message handling. These satellites are small nine-inch cubes weighing less than 25 pounds. Don't let the small size fool you however. Thanks to a unique spacecraft design incorporating high efficiency state-of-the-art electronics, these satellites utilize a high performance satellite bus contained in a remarkably small-sized package. Hence the name: MicroSat. Although no two satellites have exactly the same mission, each spacecraft is based upon the same structure and computer design.

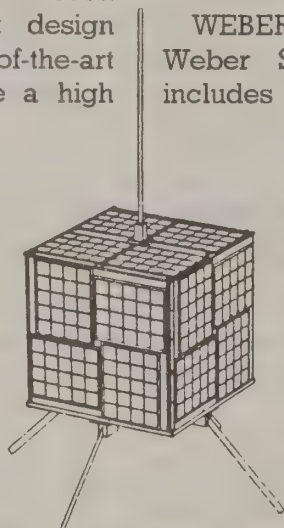
The basic structure of the satellites is a cube of five stacked aluminum trays. The receivers, special experiments, computers, power systems, and transmitters are each housed in separate trays bolted together into a single structure. All six outside surfaces are covered with high-efficiency silicon solar cells with back surface reflection to optimize the capture of photons in the process of generating electrical energy.

The four MicroSat satellites combine educational, experimental, and scientific missions as a demonstration of AMSAT's commitment to developing digital communications resources for use by Radio Amateurs world-wide.

Two of the missions, AMSAT-OSCAR-16 (PACSAT) sponsored by AMSAT North America and LUSAT-OSCAR-19 sponsored by AMSAT Argentina, are primarily packet radio store-and-forward flying mailboxes.

They are designed to receive digital packet radio messages from ground-based Radio Amateurs and relay them to other ground-based Amateurs in other geographic areas at later points along the spacecraft's orbit. In addition, OSCAR-19 also contains a special beacon which transmits spacecraft telemetry back to Earth using the Morse code.

WEBERSAT-OSCAR-18 sponsored by Weber State College of Odgen, Utah includes several experiments including a CCD camera and software to interpret images of Earth from space in addition to the digital store-and-forward system inherent to the overall MicroSAT design.



DOVE-OSCAR-17 sponsored by AMSAT Brazil, is intended to interest young students in Amateur Radio and satellite technology. While not a store-and-forward satellite like OSCARs-16 & 19, OSCAR-17 transmits its telemetry back to Earth using standard AX.25 packets using the Bell 202 standard. Anyone with a standard TNC and a 2-meter FM radio can receive the data from OSCAR-17. DOVE's primary function is to downlink digitized voice. Its unique design utilizes a special voice synthesizer and voice digitizer capable of transmitting messages and data in plain language which can be easily received by students using relatively simple radio equipment right in their own school class rooms.

The future of MicroSat is bright indeed. AMSAT Italy has already begun building their own MicroSat. With its small mass and size and the fact that the MicroSat has been qualified for flight upon any launch vehicle, we should see many more of these satellites in years to come.

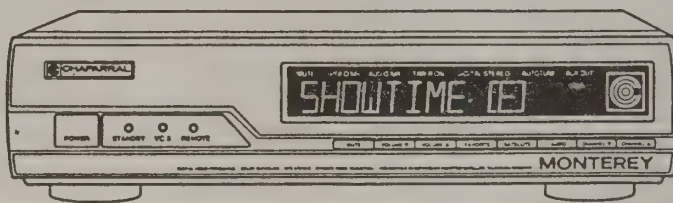
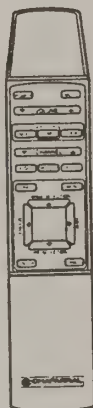
Doug Loughmiller - KO5I

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The Monterey Satellite Receiver from Chaparral with its Picture-in-Picture capability and Audio/Video Switcher, lets you tune in one satellite channel, and any other video source at the same time, so you won't miss the BIG play.

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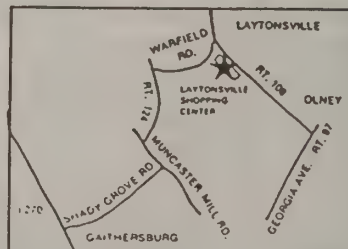


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Annual Spring Banquet

Sponsored by Foundation For Amateur Radio and Local QCWA Chapters

For All Area Amateurs

17 MARCH, 1990

Ft. Meyer Officers' Club
Arlington Blvd., Arlington, VA

SPEAKER

Bruce Brown, WA9GVK

Deputy Director for Architecture
Defense Communications Agency (JTC3A)

"Communication Technology Turns to the Drug Wars"

QCWA Awards

Harry Dannals, W2HD

National President QCWA and past President of ARRL

Make your reservations early

Table assignments are made in the order in which reservations are received
Early applications take the best seats

Club or group reservations will be available for tables of ten.
Select a spokesman for your group and let him order the reservations.
Deadline for advanced reservations is 7 March

ADVANCE RESERVATIONS

\$20 per person. Tickets at the door (without reservations) - \$22
This includes dinner, gratuity, tax, and parking

PICK UP YOUR TICKETS AT THE DOOR THE NIGHT OF THE DINNER

Tickets will be mailed only upon request and receipt of SASE
No refunds on "No Shows"

CASH BAR OPENS AT 7:00 p.m.

DINNER IS AT 8:00 p.m.

Make remittance payable to
Foundation For Amateur Radio

Mail Reservations to
Jack Kelleher, W4ZC

612 Ednor Road, Silver Spring, MD 20904
Phone (301) 924-1605

Annual Spring Banquet

MENU

Soup or Salad
Breast of Chicken Cordon Bleu
Broccoli & Carrots
Rolls & Butter
Orange Sherbet
Coffee or Tea

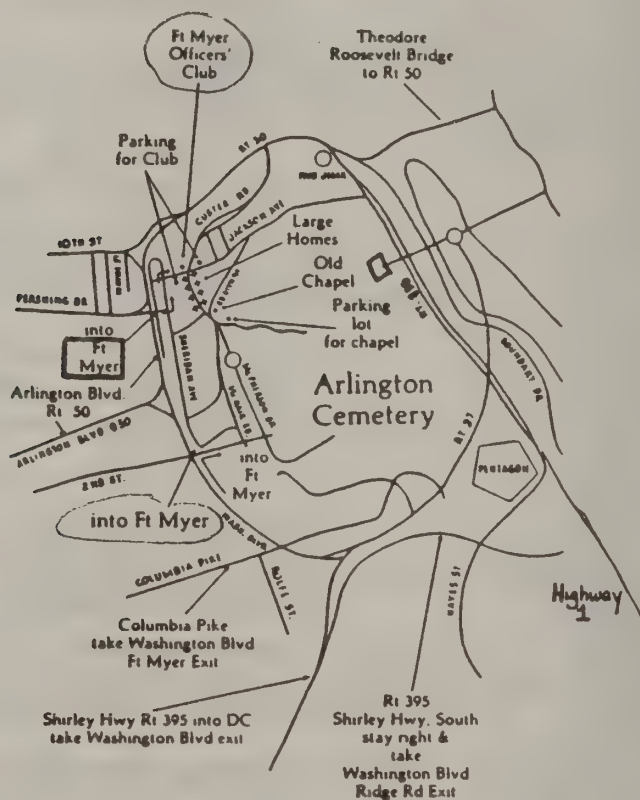
OR

Vegetarian Plate if ordered in advance

PARKING

Enter from North or South Gates.

MP will direct you to the Officers Club



1990 Annual Spring Banquet
17 March

Name _____ Call _____

Guests Names/Calls _____

Address _____

City _____ State _____ Zip _____

Enclosed is \$ _____ for _____ reservations at \$20 each.

Request Group Seating for _____ people. Names attached.

Minimum of ten

Mail to: Jack Kelleher, W4ZC; 612 Ednor Road, Silver Spring, MD 20904

Make Check payable to Foundation For Amateur Radio

Deadline for Advance Reservations

March 7

LOCATION	STATE	CALL	FREQUENCY		REMARKS	SPONSOR
			INPUT	OUTPUT		
Salisbury	Md	K3NOQ/R	146.325	146.925		Peninsula Radio Operators Society
Salisbury	Md	KC3UV/R	449.050	444.050		KC3UV
Seat Pleasant	Md	KA3LAO/R	222.580	224.180	P	Tri-County Amateur Radio Club
Seat Pleasant	Md	N3ST/R	443.825	448.825		Central Maryland Repeater Group
Shawsville	Md	K3HT/R	144.730	145.330		W3VRD
Shawsville	Md	WA3DUR/R	223.320	224.920	P	WA3DUR
Shawsville	Md	KB3VX/R	444.375	449.375	LNK7	KB3VX
Silver Spring	Md	N3AUY/R	29.560	29.660	PL-4A (141.3)	KD3R (PL sometimes)
Silver Spring	Md	KA3LAO/R	147.780	147.180	AP	Tri-County Amateur Radio Club
Silver Spring	Md	KB3NU/R	443.275	448.275	P	KB3NU
Silver Spring	Md	N3AUY/R	444.025	449.025	PL-5A (156.7)	KD3R (PL sometimes)
Silver Spring	Md	WA3ZNW/R	448.450	443.450	PL	WA3ZNW
Westminster	Md	K3PZN/R	144.810	145.410	LNK14	Carroll County Amateur Radio Club
Westminster	Md	K3PZN/R	444.875	449.875	LNK14	Carroll County Amateur Radio Club
Wheaton	Md	N3AGB/R	52.250	53.250	AP/LNK12	Metropolitan Comm's. Network Radio Club
Wheaton	Md	N3AGB/R	144.950	144.950	LNK12	Metropolitan Comm's. Network Radio Club
Alexandria	Va	WA4CCF/R	52.130	53.130	LNK8	Alexandria Radio Club
Alexandria	Va	WB4MJF/R	144.550	145.150		WB4MJF
Alexandria	Va	WA9GVK/R	144.970	144.970	LNK13	Metrovision (ATV audio)
Alexandria	Va	WD4PDP/R	146.055	146.655	AP	Mount Vernon Amateur Radio Club
Alexandria	Va	W4HFH/R	147.915	147.315	LNK9	Alexandria Radio Club
Alexandria	Va	WA4CCF/R	223.220	224.820	LNK8	Alexandria Radio Club
Alexandria	Va	WA9GVK/R	439.250	426.250	ATV/LNK13	Metrovision
Alexandria	Va	WA5ZAI/R	449.500	444.500		WA5ZAI
Alexandria	Va	W4HFH/R	449.600	444.600	LNK9	Alexandria Radio Club
Alexandria	Va	WA4CCF/R	907.600	919.600		Alexandria Radio Club
Alexandria	Va	WA4CCF/R	1270.600	1282.600		Alexandria Radio Club
Arlington	Va	KI4MB/R	52.050	224.060	P LNK23	KI4MB
Arlington	Va	N4EFJ/R	144.870	145.470		N4EFJ
Arlington	Va	WA4YVM/R	147.645	147.045		WA4YVM
Arlington	Va	KI4MB/R	222.460	224.060	LNK23	KI4MB
Arlington	Va	KA4DCS/R	444.875	449.875	**** NC ****	KA4DCS (PL-4Z (136.8))
Arlington	Va	KI4MB/R	449.150	444.150	P	KI4MB
Bluemont	Va	WA4TSC/R	147.900	147.300	PL-4B (146.2)	WA4TSC (PL at night)
Bluemont	Va	WA4TSC/R	444.925	449.925		WA4TSC
Culpeper	Va	N4FAF/R	147.720	147.120		Culpeper Amateur Radio Association
Fairfax	Va	WA4YVM/R	144.570	145.170	<< BC >>	WA4YVM
Fairfax	Va	W4LBL/R	146.190	146.790	LNK10/AP	Northern Virginia FM Association
Fairfax	Va	WB4YHD/R	222.500	224.100	LNK10	Northern Virginia FM Association
Fairfax	Va	WD4KHP/R	222.820	224.420	PL-1B (107.2)	Northern Virginia 6 Meter Group
Fairfax	Va	KD4DN/R	443.725	448.725	LNK11	KD4DN
Fairfax County	Va	KA4DCS/R	52.580	52.480	**** NC ****	KA4DCS
Falls Church	Va	WA4QD/R	144.750	145.350	L	WA4QD (open during emergencies)
Falls Church	Va	N4CHP/R	223.380	224.980	AP	N4CHP
Falls Church	Va	N4EFK/R	449.300	444.300		Melpar Amateur Radio Club
Falls Church	Va	K8ZOA/R	449.450	444.450		Downriver Control Group
Fredricksburg	Va	WB4LNT/R	147.615	147.015		Rappahannock Valley Radio Club
Great Falls	Va	N3AVA/R	449.050	444.050		N3AVA
Harrisonburg	Va	WX4C/R	147.825	147.225		Massanutten Amateur Radio Association
Harrisonburg	Va	N8HON/R	449.400	444.400		N8HON
Herndon	Va	WD4KHP/R	52.620	52.820	PL-1B (107.2)	Northern Virginia 6 Meter Group
Herndon	Va	N4FSC/R	144.710	145.310	AP	Herndon Repeater Group
Independence Hill	Va	AA4VA/R	448.800	443.800		Renex Radio Club
Leesburg	Va	WA4TXE/R	222.420	224.020		WA4TXE
Lovettsville	Va	WB4FUJ/R	222.860	224.460	L	WB4FUJ
Manassas	Va	WA4FPM/R	146.370	146.970	AP/LNK21	Ole Virginia Hams Amateur Radio Club
Manassas	Va	WA4FPM/R	223.060	224.660	LNK21	Ole Virginia Hams Amateur Radio Club
McLean	Va	WD4IWG/R	147.810	147.210	AP	AMRAD
New Market	Va	K4AVW/R	146.025	146.625		Shenandoah Valley Repeater Association
Stafford	Va	NM7J/R	144.670	145.270	**** NC ****	Stafford Area Repeater Association
Sterling	Va	KD4DN/R	29.580	29.680	LNK11	KD4DN
Sterling	Va	WA4TXE/R	146.115	146.715		WA4TXE
Sterling	Va	WD4KHP/R	222.120	223.720		Sterling Park Amateur Radio Club
Sterling	Va	WA4TXE/R	447.200	442.200	P	WA4TXE
Tysons Corner	Va	WD4HLF/R	146.310	146.910	AP	Northern Virginia FM Association
Tysons Corner	Va	WD4KHP/R	223.120	224.720		Northern Virginia 6 Meter Group
Tysons Corner	Va	KM4FI/R	448.500	443.500		KM4FI
Tysons Corner	Va	K4JYF/R	449.750	444.750		Northern Virginia FM Association
Vienna	Va	K4HTA/R	146.085	146.685		Vienna Wireless Society
Vienna	Va	K4HTA/R	222.340	223.940		Vienna Wireless Society
Vienna	Va	K4HTA/R	448.250	443.250		Vienna Wireless Society
Vienna	Va	WR4S/R	1272.000	1292.000		WB5MMB
Warrenton	Va	NZ4N/R	147.765	147.165		Fauquier County Repeater Association
Winchester	Va	W4RKC/R	146.220	146.820		Shenandoah Valley Amateur Radio Club

LOCATION	STATE	CALL	FREQUENCY		REMARKS	SPONSOR
			INPUT	OUTPUT		
Winchester	Va	NB3O/R	444.175	449.175		Virginia Inbreds
Winchester	Va	W3CSG/R	447.000	442.000		W3CSG/W4TCK
Woodbridge	Va	WB4FQR/R	147.840	147.240		Woodbridge Wireless
Woodbridge	Va	WB4GJZ/R	223.180	224.780		Woodbridge Wireless
Woodbridge	Va	KA4DCS/R	444.875	449.875	**** NC ****	KA4DCS (PL-4B (146.2))
Woodbridge	Va	WB4FQR/R	449.900	444.900		Woodbridge Wireless
Woodford	Va	WA4SDE/R	443.975	448.975	**** NC ****	WA4SDE
Washington	DC	KA3TBD/R	52.170	53.170	P	KA3TBD
Washington	DC	W3EIL/R	144.510	145.110		Capital City Amateur Radio Society
Washington	DC	W3DOS/R	144.590	145.190		Department of State Amateur Radio Club
Washington	DC	W3ODE/R	144.830	145.430	**** NC ****	Metropolitan Repeater Association
Washington	DC	W3JSM/R	147.960	147.360	LNK15	Alexander G. Bell Pioneer Repeater Association
Washington	DC	N3DPD/R	222.220	223.820	L/AP	N3DPD
Washington	DC	W3NKF/R	222.900	224.500	AP	NRL Amateur Radio Club
Washington	DC	N3AQQ/R	443.875	448.875		D.C. Emergency Preparedness RACES/ARES
Washington	DC	WA3KOK/R	444.975	449.975		WA3KOK
Washington	DC	W3JSM/R	449.350	444.350	LNK15	Alexander G. Bell Pioneer Repeater Association
Washington	DC	K4AF/R	449.550	444.550		Pentagon Amateur Radio Club
Berkeley Springs	WVa	KK3L/R	29.520	29.620	LNK22	KK3L
Berkeley Springs	WVa	KK3L/R	144.910	144.910	LNK22	KK3L
Charles Town	WVa	N8EIV/R	146.385	146.985		N8EIV
Martinsburg	WVa	WA8FSE/R	144.550	145.150		Opequon Radio Association
Martinsburg	WVa	WB8YZV/R	147.855	147.255		WB8YZV

KEY to the REMARKS column

AP..... Auto-patch is available. Its use may be limited or restricted. Check with sponsor.
 ATV..... Amateur television repeater.
 L..... Limited usage repeater—check with sponsor. Repeater may have coded access.
 LNK(#)..... Repeater(s) shown may be interconnected either full or part time.
 P..... Repeater is proposed and is scheduled to be in operation within 6 months or less.
 PL-(freq.)..... Low frequency continuous tone (CTCSS) required on input.
 RTTY..... Teletype operation using audio tone modulation (AFSK) is invited . . . may be either BAUDOT or ASCII.
 W-(freq.)..... Whistle is required to activate repeater (in some cases touch-tone or tone burst is acceptable).
 TT..... Touch tone required to access the repeater.
 **** NC ****..... Indicates this repeater presently is not coordinated with T-MARC.
 << BC >>..... All new 2-meter repeaters will be assigned to the "Builders Channel" pending an available frequency.
 S-S..... Spread-Spectrum.

T-MARC voluntarily coordinates frequencies used by repeaters, "remote base" stations, and related activities in Delaware, Maryland, the District of Columbia, the northern one-third of Virginia, and the eastern panhandle of West Virginia. Inquiries relating to the coordinating of frequencies within this area, as well as additions and corrections to this directory, should be addressed to: T-MARC Coordinating Committee, 1419 Larch Road, Severn, MD 21144.

This directory lists ONLY "open" or limited usage repeaters. "Closed" repeaters, "remote base" stations, control and link frequencies, and other "closed" systems which are also coordinated by T-MARC are not listed here. Therefore, this directory should not be used for coordination purposes. Please feel free to duplicate this directory. To obtain a copy of this directory, please send a self-addressed, stamped envelop (SASE) to: T-MARC, 7623 Old Washington Road, Woodbine, MD 21797.

Repeaters are built and maintained for many purposes, and to serve many users. Most sponsors welcome all users, however, regular users are urged to support their favorite machines—repeater operation is not a cheap or simple task. Please cooperate with the sponsors by careful observance of all FCC rules. Also, some sponsors may have special operating procedures for their machines. Please observe them as a courtesy to the sponsor and his users.

SIMPLEX ACTIVITY

Where possible, all Amateurs are urged to use simplex rather than repeaters. T-MARC does not presently coordinate simplex frequencies. However, an attempt is made to maintain a list of known organized simplex activity in the area.

REPEATER TEST FREQUENCIES

The following repeater frequency pairs have been set aside for testing and development of new repeaters and for the operation of temporary, portable, or emergency repeaters on a non-interference basis to coordinated repeaters: 144.57-in/145.17-out, 223.00-in/224.60-out, 442.875-in/447.875-out, 447.900-in/442.900-out, 908.00-in/920.00-out, and 1271.00-in/1283.00-out. No permanent repeaters will be coordinated on these frequencies, and coded access may be required to minimize co-channel interference. Please note that "<< BC >>" in the remarks column of this listing indicates that the listed repeater is on a "builders channel."

Nostalgia

Amateur Radio in the Early Thirties

Part III

By Jack Geist - N3BEK

The highest-power transmitter described in the 1932 Handbook was rated at 150 watts. There were many Amateur stations in the several-hundred watt range, some at the one-kilowatt legal limit, but there were many more operating effectively at input power of less than fifty watts.

The advent of vacuum tubes brought on the need for high-voltage, high-current power supplies. This requirement was first met by motor-generators, mercury-arc, ac-dc rectifiers, and even home-made rectifiers. As previously mentioned, the ARRL station was still using m-g sets and mercury-arc rectifiers. The 1932 handbook included instructions for making a chemical rectifier with a rating of 750 volts at 100 ma. The mercury-arc rectifier was a rather cumbersome evacuated glass bulb enclosing several electrodes and a small pool of mercury. It had to be supported in a swivel holder that could be tilted over to start the arc, and the bottom of the tube had to be cooled in an oil bath. Also a keep-alive circuit was necessary to keep the tube filled with mercury vapor when no current was being drawn. Cumbersome or not, the mercury-arc was the only rectifier available to supply a kilowatt rig until sufficiently high-power thermionic rectifiers became available. Vacuum tube rectifier tubes were available for lower power levels, and these were soon followed by mercury-arc tubes for near one kw output. Tube rectifiers soon became standard and the power supply problem was greatly simplified.

Some Amateurs were winding their own transformers and filter chokes. The handbook included information on the design. The power-supply smoothing filter for mercury-arc rectifiers required a choke input to limit peak current. The October 1931 QST introduced the concept of improving the voltage-regulation of the supply by using a saturable reactor in the input of the filter. This became the "swinging choke", soon the standard for Class-B modulator power supplies.

The most popular transmitting antenna was a horizontal, half-wave at the lowest band operated, as high in the air as possible, either center or end-fed with home-made tuned open-wire transmission line. That is, the line was not terminated in its characteristic impedance. The line and antenna together were tuned to resonance by a tuned circuit coupled to the final-amplifier plate coil. This arrangement could be tuned to and would take power on each higher-frequency band. An rf ammeter in one conductor of the line gave a relative measure of power delivered to the antenna. A meter in each conductor provided a measure of the desired condition of current balance in the two sides of the line. A less expensive method was to couple a flashlight bulb to one or both conductors.

Some single-band dipoles, center-fed with matched-impedance open wire lines were in use. The impedance match was achieved by increasing the spacing of the feed wires where they were connected to the antenna - the "delta" match. The Handbook presented formulas for calculating the physical dimensions for the impedance match. Dimensions were also given for the single-wire, off-center, "Windom" feed. Ten-meter enthusiasts, taking advantage of the shorter dipole lengths, were experimenting with fixed-direction, multielement arrays.

BELOW TEN METERS

As reported in QST in the summer of 1931 in articles by Ross Hull and Jim Lamb, Amateurs had experimented with the 56-mc band in 1929. The results had been disappointing, and only showed that five-meters was not a DX band. The experimenters soon lost interest. The articles describe experiments being conducted by Jim Lamb in the hopes of reviving interest in five meters. He had resurrected the super-regenerative detector invented by

Amateur Radio in the Early Thirties - Continued

Major Armstrong in 1922 and found in 1926 experiments to be of no value for low-frequency reception. A simple three-tube super-regenerative receiver was built and found to be stable and extremely sensitive at 56 mc. A stable oscillator circuit was also devised for a simple, low-power five-meter phone transmitter: a push-pull, self-excited oscillator, amplitude modulated with two tubes in parallel in a Heising circuit. The ARRL staff made extensive field tests using two sets of this equipment. They obtained good coverage to 15 miles over flat land along the Connecticut River and beyond 35 miles when operating from high ground around Hartford. Significantly, there was no deterioration in signal when reducing transmitter power from over 100 to under 10 watts. Here was a new band ready to be exploited by the hams.

Within one year of the report of this work there was extensive, sustained five-meter experimentation under way by Amateurs. Reports were being received from all parts of the U.S. and from several European countries. There were field-days, airplane tests, mountain-top DXing, and equipment experimentation. More stable multi-stage transmitters were designed, and superregenerative receiver improvements were reported. Amateurs were learning that radio line-of-site normally extends a little further, and sometimes quite a bit further, than geographical line-of-site. By the summer of 1933 many contacts had been made at distances of over 100 miles. The unofficial five-meter DX record was 142.5 miles. And all this was being done with simple, low-power phone. Fifty-six mc and above was showing the potential of reliable night-and-day local coverage with low-power equipment and with less fading and noise than on the lower frequencies. The results of the Amateur experimentation was a surprise to the Amateurs and radio engineers alike. The march up the VHF spectrum was on.

In those early days QST included an Experimenters' Section. ARRL was a clearing-house for ideas developed by radio Amateurs. The ideas were published and integrated into the experimental work being conducted in the ARRL laboratory.

OPERATION

Because the frequencies of the transmitter and receiver were completely independent, and because changing the frequency of the transmitter, much less putting it on the exact frequency of the receiver, was somewhat involved, contacts were normally made by calling or answering CQs. Schedules were kept by tuning the receiver around the approximate frequency specified until the scheduled station was heard. Net operation required careful pre-tuning of transmitters, and usually some fine tuning after the net was established. Crystal control solved the problem of accurately designating the transmitting frequency, but confined the transmitter to a single frequency (rock bound). Most crystal stations had more than one crystal for each band worked.

RST reporting was meaningful because some stations were not yet T9. Some stations had not yet installed high-voltage power supplies with adequate ripple filtering to produce a "pure" CW note. Some foreign stations were still using rectified ac with no filtering.

RFI became a problem for radio Amateurs as soon as broadcast radio became popular. Broadcast receivers were sensitive to image response, rf overload, and even direct detector demodulation. The 1932 Handbook devotes one chapter to Keying and Interference Elimination. Keying was simple. The key was connected as a switch in the power circuit to a stage that would turn off the rf output. CW signals were prone to generating key clicks due to the sharp rise and fall time of each dot and dash, sometimes with overshoot spikes. The Handbook recommended filters in parallel and in series with the key to soften the leading and following edge of each pulse. The other recommendations for interference suppression were power-line filters and wave-traps (parallel tuned circuit) between the antenna lead-in and the receiver antenna connection. Radio station causing "general" interference to broadcast receivers of "modern" design were required to observe quiet hours from 8:00 to 10:30 p.m. and Sundays 10:30 a.m. to 1:00 p.m. As always, there was plenty of

Amateur Radio in the Early Thirties - Continue

ARRL sponsored activity. There were contests, QSO parties, Standard Frequency Tests, special events, and even a contest for the longest sustained QSO. In 1932 ARRL sponsored a grandiose DX scheme known as The International Good will Tests. There were two six-day tests. The first three days of each test were divided into rotating transmitting and receiving periods in which four continents transmitted and two listened with no two-way contacts. The last three days of each test were scheduled for attempting two-way contacts with stations previously logged. Each station participating was to submit a list to ARRL of every callsign heard. They actually pulled it off. The results were reported in QST. Every station heard in each continent was listed. There were thousands of calls from over a hundred countries including Afghanistan, Ceylon, Japan, Australia, New Zealand, Iraq, Japan, Siberia, and Hong Kong. ARRL pronounced the tests a great success and added, "Thousands of QSL cards were exchanged as a result of the I.G.T. and newly made friendships were more closely bonded thereby".

Contesting was a CQ-and-tune-for-an-answer-proposition. There were no pile ups because equipment design did not allow rapid frequency agility. There was no running off WAS and forty or fifty countries in a couple of afternoons as is possible today. The most striking difference between pre World War II Amateur radio and that of today is the tremendous improvement in operating efficiency made possible by digital frequency readout, single-sideband transceivers.

REMINISCING

I cannot remember what first got me interested in radio, but I am probably the only licensed radio Amateur that has the distinction of not being able to make a crystal set work. The father of a classmate built a crystal set that did work and we were able to pull in programs at Newark Delaware from WBAL in Baltimore, WCAU in Philadelphia, and sometimes from KDKA in Pittsburgh. It was probably from that "cats whisker" and galena set that I

developed a strong fascination with radio. The first technical information came from Hugo Gernsback's Radio-Craft magazine. My first receiver was a home built two-tube with a regenerative detector and audio amplifier - it worked. I later built the real ham receiver described by George Grammer in the January 1933 QST. It was an improved version of, as Grammer said, "the standard Amateur receiver - one rf, regenerative detector, and one audio". With plug-in coils it operated on the 160 through 10- meter bands.

My family's home was on a deep lot that accommodated a half-wave on 160-meters. How lucky can you get? The antenna was an "end-fed zepp" with a home-made open-wire feed line. I still remember the special "feel" of the 160-meter band on clear, cold winter nights. No noise, clean signals, a crispness that came right through the headphones. My first transmitter was a home-built self-excited oscillator. I soon graduated to the more sophisticated M-O-P-A (Master Oscillator Power Amplifier). Inevitably, I began to think about going on phone. Somewhere I heard about "loop-modulation". Loop-modulation was accomplished by inserting a one-turn coil between two turns on the "cold" end of the final-amplifier tank coil, and connecting the coil to a carbon microphone. Some of the energy in the tank coil was coupled into and dissipated by the microphone. The sound of the operators voice varying the resistance of the carbon granules in the microphone varied the amount of energy dissipated and hence the amount fed to the antenna. The result was a low-level amplitude modulation of the signal being radiated. I tried it. My biggest thrill in ham radio was when, on the first test, I heard my call coming back to me from a station in Wilmington fourteen miles away. This was the stuff of miracles! Don't forget, this was 1932 and a high-school kid with a telephone microphone and a piece of wire stuck in the plate coil.

I put away the key and sold my stamp collection for money to buy a Heising.

Continued on page 40

Public Service Report - Continued

The TMARC Frequency Coordinating Committee interprets the allocations previously mentioned to be frequency blocks set aside for digital radio use, and the channel widths, center frequencies, and uses as suggested values. The details of the bandwidths, modulation schemes, protocols, etc. are left to the packet community for their consideration and action.

Please take notice that RTTY and similar systems (but not Morse) are considered to digital radio. Digital radio users should follow good amateur practices and confine operations to the specified shared and exclusive frequency band plans.

Packet users on 6 meters should remember that the model control band exists on channels from 50.8 to 50.98 MHz (50.79 to 50.99), and that packet operations within this subband could be disastrous to both models and spectators.

The frequency of 50.7 is listed as the National RTTY Calling Frequency. There exists a packet network operating on 50.61 MHz.

The frequencies of 144.91, 144.93, 144.95, 144.97, and 144.99 MHz ARE NOT AVAILABLE for packet use in the TMARC area. Coordinated (non-packet) users exist on these frequencies.

The frequency of 145.69 MHz is specified for shared packet, RTTY, and other digital radio use.

The 100-KHz channel centered on 430.75 MHz is NOT AVAILABLE for packet use in the TMARC coordination area.

Questions, comments regarding packet band plans should be addressed to the Packet Liaison Committee, T-MARC Coordinating Committee, 1419 Larch Road, Severn, Maryland 21144.

Radio in the 30's - Continued

The early thirties were exciting times for ham radio. It was highly technical. We were experiencing first-hand the development of a new technology. It is clear that the ARRL technical staff members were leaders in the technical development of radio.

Amateur radio led many of the kids of the thirties into careers in radio and electronics. I was one of those kids.

Thanks to the following old-timers who checked this story for an accurate portrayal of the era:

Ed Hill, W3FEG; Jack Salin, W3FKT; Bill Freienmuth, W3OIO;
Wayne Shaffer, W3QAN; and Stan Brigham, W3TFA.

Vienna Wireless Society

25 Years of Public Service

Meetings:	2nd and 4th Fridays of each month, 7:30 p.m.
Repeaters:	Vienna Community Center, 120 Cherry Street, Vienna, VA K4HTA/R 146.085 in/146.685 out 222.340 in/223.940 out, 448.250 in/443.250 out
Nets:	Every Thursday at 7:30 p.m. on 146.085 in and 146.685 out. Pow-Wow Net Every Night at 9:00 p.m. at 28.400 MHz
Information:	Brian Treadwell, WV4V (703) 938-1442 (H), (202) 457-7179 (O)
Training Classes:	Paul Wilkins, AB4CY (703) 560-2779
Mailing Address:	P.O. Box 418, Vienna, VA 22183

A lot of club energy went into preparations for this year's Winterfest,™ held on February 25th. Earl Hohbein - N4FSW was commander-in-chief. We hope you all had a pleasant visit.

An all-out effort is underway to enroll club members in this spring's upgrade training classes beginning March 26th. Classes will be Monday nights at 7:30 p.m. at the Vienna Community Center. The series will run for 10 weeks and will cover all license grades through Extra. Call the training coordinator for information and to get on the roster. The classes are free and open to anyone.

The club distributed special QSL cards printed with the Vienna Centennial seal for use during the 1990 centennial celebration. The card design was handled by Pat Crosby - KA4FHK, and Ken Anderson - W4JQT handled the logistics. Over ten thousand cards were printed. During the centennial the club will attempt to QSL the nine other Viennas listed in the post office zip code directory and the town's namesake in Austria.

A new club directory will be distributed at the February 23rd meeting. Warren Bain - N4MWU is updating the membership and mailing lists in his computer files. Members are urged to make sure their dues are up to date, and their current call and address are properly listed.

Work has begun on planning how to link the club's three operating repeaters. This involves two co-located repeaters and one remote. The linking will be a component of an upgraded emergency response capability that will put our abilities where and when they're needed.

The club's annual formal banquet will be held at the Westwood Country Club on March 23. This event, coordinated by Vernon Hill - W4DZI, is our chance to dress up and be on our good behavior. Annual awards are presented and the evening ends with scheduled entertainment and a chance for OMs and YLs to meet the other's half.

One of our younger members, Steve Groves - KC4COX, has come up with an "antenna of the month" feature in which he does a bit of research on antenna ideas and passes them along to the membership. Last month he distributed a flyer on a 40-meter helically wound beam.

January club programs featured electronic basics. Ron Thomas - N4WYR presented a drill on power supply basics down to three terminal regulators and Zener diode voltage sources. The other program concentrated on conversion of decimal to BCD to 7 segment codes used in frequency counter displays.

Jim Parsons - WA4LTO, our Vienna Wireless monthly *RELAY* editor, keeps coming up with better and better issues. Way to go!

Paul - AB4CY

Maryland Mobileers Amateur Radio Club

Meetings: First Friday of each month at 1930 hours. Basement of Police C.I.D.
Building at Crownsville State Hospital Grounds,
Route 178 and Crownsville Road.

Repeater: 146.805 MHz (output) in Millersville

Breakfast: 15 days after the regular club meeting.

Held at Grapevine Restaurant in Odenton, Maryland at 0900.

Nets: Mondays - 8:30 p.m. on 146.805 - Traffic and Information Net

Tuesdays - 8:00 p.m. on 144.215 - SSB Net

Wednesdays - 8:00 p.m. on 147.495 - FX Simplex Net

Contact: Bill Dillon - WA3SCW (301) 551-8972 or

'@ K3IVO' in packet.

Address: P.O. Box 784, Severna Park, Md 21146

The Maryland Mobileers Amateur Radio Club will operate WA3PJQ 1400Z - 2100Z on May 19 from aboard the submarine U.S.S. Torsk to honor the submarine service. Suggested frequencies: SSB - 7240, 14240, 21340 and 28340 (\pm QRM) and FM 146.805. For certificate, send legal-size S.A.S.E to MMARC at address shown above.

Bill Dillon - WA3SCW

Laurel Amateur Radio Club

A Volunteer Examiner Coordinator

Meetings: 4th Wednesday of each month, 8:00 p.m. at Capitol College
on Springfield Road, Laurel.

Social: 2nd Wednesday of each month except December.

Nets: 1st & 3rd (5th) Wednesday of each month, 8:30 p.m. on 147.54

Mail: P.O. Box 3039, Laurel, MD 20709-0039

Exams: 4th Saturday of each month, 10:00 a.m. at Maryland Radio Center.

Information: John - W3GFS (301) 490-5286 or Frank - K3LDE (301) 498-2213

The Laurel Amateur Radio Club is active in the Laurel area, which we think generically includes most of Northern PG County, as well as surrounding areas. All Amateurs in "our neighborhood" are welcome to participate in LARC activities.

The first meeting of this new year was held on January 24, with 34 members and guests attending. President John Albertine - W3GFS was looking for chairmen of several important upcoming events, and was pleasantly surprised when he actually got some volunteers. K3QDC will chair the Beltsville marathon in February; W3DQI, K3IOG and KD3EC will coordinate the Laurel Main Street Festival in May; KA1RPA and N3GPR are field day bosses; and both W3GFS and WA4AVU are looking into

various special event options for the fall.

The Laurel VEC is looking forward to an active testing program, both at Maryland Radio Center, where Laurel administers tests every fourth Saturday at 10:00 a.m., and at Gaithersburg in September. In addition, WA3QGA has responsibility for the program in general, and looks forward to working with other VETs in the Maryland-Virginia-Delaware-Pennsylvania area.

For information on local club events, call John or Frank (listed above) or drop a note to the club address. Or give a shout on the club frequency of 147.54 any night after 9:00 p.m., and add some social grace to the cacophony which is (sometimes) present!

W3DQI

Arlington Amateur Radio Club

Meetings: Third Tuesday of each month, 7:30 p.m., at the American Red Cross, Arlington Chapter, 4333 Arlington Blvd. (Rte. 50).

Net: Tuesdays (except meeting nights) 7:30 p.m., 144.87/145.47 MHz FM.

Info: Craig Church, N4EFJ (703) 979-8325.

January Meeting

At the January 16 meeting, Craig - N4EFJ, President of the Arlington ARC, set the organizational tone for 1990 by encouraging everyone present to serve as an "ambassador of the club." "If you meet a new or prospective ham," Craig declared, "tell him/her about the Arlington club, invite him/her to a meeting, and suggest they use our 145.47 repeater." Meetings, Craig continued, although officially starting at 7:30, will informally begin at 7:00, permitting attendees to become better acquainted with each other through ham fellowship. The club, he concluded, will also sponsor a number of social events during 1990.

Vice President Jim - KM4XC reported that club-sponsored Novice classes will begin March 14 at 7:00 p.m., in the conference room of the American Red Cross building at 4333 Arlington Blvd. Posters advertising the classes will be distributed throughout the area, and local radio personality Ed Walker, N3HFT, will make public service announcements to promote the classes. The membership voted to allocate \$200 for the purchase of textbooks and other materials.

Jim also noted that at least eight members are seeking ARRL accreditation as Volunteer Examiners (VEs).

The Arlington club plans to become active in contests and other operating events, including the Virginia QSO Party, Field Day, and the ARRL Sweepstakes. Chuck, N4HCP, reported that Area A-6 of Fort Ward Park, between I-395 and Seminary Rd., will tentatively be the club's operating location for Field Day.

Plans to construct a 60-foot tower and antenna array for the club station, W4WVP, at the Arlington Chapter of the American Red Cross were reviewed. Fund-raising efforts are already underway. In addition, Craig - N4EFJ and Tom - N4BYF will soon meet with the Red Cross Building and Grounds Committee to secure formal permission for the project.

The evening's featured speaker, Scott Standiford - W3YTW, delivered an electrifying presentation on the ever-stimulating subject of lightning and protection therefrom. The meeting then adjourned to a local watering hole for ham fellowship.

At our February 20 meeting:

Stan - W3INK, is scheduled to tell us about computer bulletin board systems in general and, in particular, about the "3 WINKS" landline BB he operates in Rockville, MD, featuring ham radio topics.

Next Meeting: March 20

Future Programs:

Program chairman Bill - KM4DN has lined up programs through the spring. In March, heavy metal specialist Ed - KC3SV (and others?) will describe some homebrew antenna projects. In April, Frank - WB8OFR,

will describe his 1989 DXpedition to Sweden. No speaker has been scheduled for May; the club will plot its grand strategy for Field Day at the May meeting. Summertime programs are still in ferment.

-- Frank - WB8OFR and Mike - NW3V

New Carrollton Amateur Radio Society

Meetings: 4th Friday of each month, 7:30 p.m., New Carrollton Municipal Center
6016 Princess Garden Parkway, New Carrollton, MD 20784
Mailing Address: 6016 Princess Garden Parkway, New Carrollton, MD 20784
Information: Phil Russo - N3GDD (301) 552-2918

The New Carrollton Amateur Radio Society (NCARS) is a new club formed in the summer of 1989 and is open to all those interested in the furtherance of Amateur Radio in this area. The NCARS has been incorporated and has elected the following officer:

President: Phil Russo, N3GDD
Vice Pres: Bob Shaffer, NC3J
Secretary: Joe Fry, N3HFG
Treasurer: Ed Mumford, KA3QDI

The NCARS has provided communications for city-wide events such

as the city Corn-Boil, and the 5,000 KM and the 2,500 KM runs. The club will be providing communications for an upcoming volunteer city project on April 4-8 from 7:00 a.m. to 7:00 p.m. each day. A community playground will be constructed, using about 1,000 volunteer citizens during this period of time.

Anyone wishing to provide any help with this large project, please give us a call. The next meeting will be held on March 23, at 7:30 p.m. at the New Carrollton Municipal Center.

Joe Fry - N3HFG

Department of State ARC

Meetings: First working Monday of each month at 12:00 Noon.
Main State Department Bldg, Room 3524, Washington, DC
Foreign Service Net: Every Sunday, 1500-1530Z on 14.316
1530-1600Z on 21.416 and 1600-1630Z on 28.416
Repeater: W3DOS/R 145.19, open access. Round Table, Thursday at 8:30 p.m.

The seventh VE examination, sponsored by the Dept of State and The George Washington University ARCs, held on Saturday, Jan 6, in the Thompkins Hall of Engineering of The George Washington University, turned out to be very successful. Six candidates were examined in a total of 21 elements. Exams in 5 code elements and 16 written elements were given.

Successful license upgrades were as follows: Novice to Technician = 2, Novice to General = 1, Advanced to Amateur Extra = 1. New licenses: Technical = 2.

No pre-registration was required. It appears that walk-ins give the candidates more flexibility of when and where they are going to attend the examination sessions.

The facilities were ideal. Class rooms were used for the exams while the lab

facilities and the equipment used in the Electrical Engineering academic environment were available for the candidates to see.

A word of thanks goes to the ARRL, Auto-Call, the local Amateur Radio equipment outlets, as well as the local Amateur Radio clubs, where notices of the exam were made available. Also, thanks go to the following VEs who assisted with the exam: Fred Bardsley, Jr., WD4DHW, Tom Dorset - WB4J, Derrill Rohlf - W3WOX, John Swafford - W4HU, and Dave Wollen - AA4IC.

The next VE examination session sponsored by the DOS and GW University is scheduled for Saturday, July 7.

Derrill - W3WOX

Metropolitan Communications Network

Meetings: Quarterly, on the second Sunday of the month.
Time and place to be announced.

Repeater: N3AGB/R, 52.250 MHz in; 53.250 MHz out.

On-the-air: Saturdays at 1900 hours.

Mailing: Bob Sporn - WA3GGO, 9927 Cottrell Tr, Silver Spring, MD 20903

Information: Bob Sporn - WA3GGO (301) 434-1719

The next meeting will be held Sunday, March 11 at the QTH of Marvin T. Storey - N3FBO. Creative plans for our clubs' activities will be considered, for this year's operation. Ernie Walker - WB3DVL, NE of Baltimore, checked in at our Saturday night net, as did Bernie Keiser, WD4O of Vienna, Virginia. Bernie told us he had worked Fairbanks, Alaska, during a band opening.

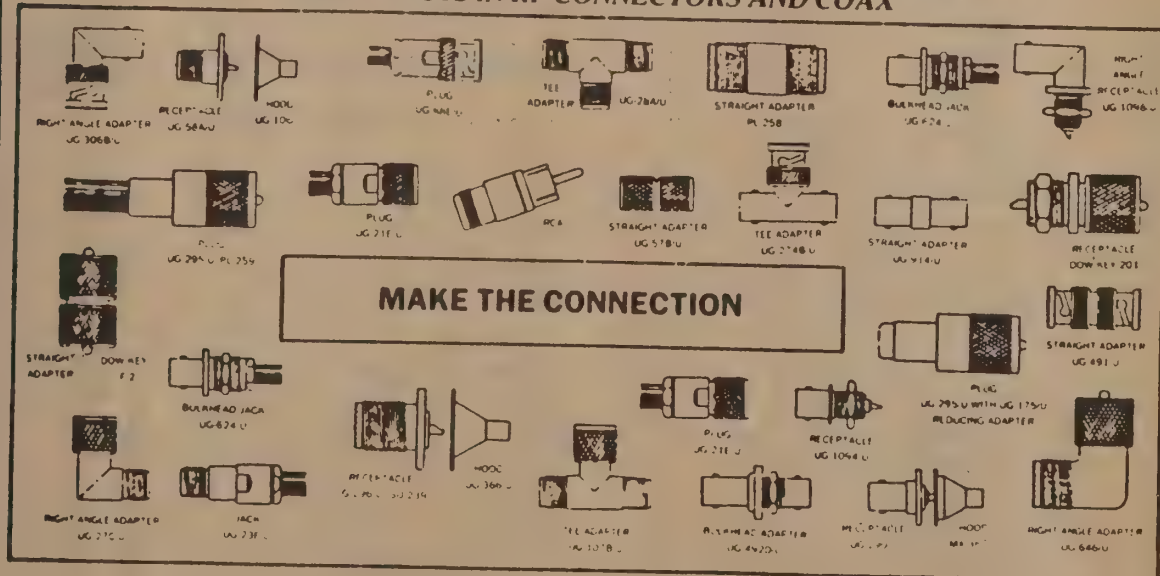
THE SUNDAY MORNING COFFEE NET (6 METER AM) ON 50.4 MHZ AT 0900.

Joe Saunders - K3UAL ushered in the New Year by working Columbia and Venezuela on six meters side band on only 9 watts. Joe works ten meters from his place in Jupiter, Florida. While attending the Christmas party and Dinner of the Goddard Amateur Radio Club - W3NAN, Bob - WA3GGO won the prize as the oldest member present. He won a coffee mug with his call sign, a most appropriate gift for the "Sunday Morning Coffee Net's" net control.

Bob - WA3GGO

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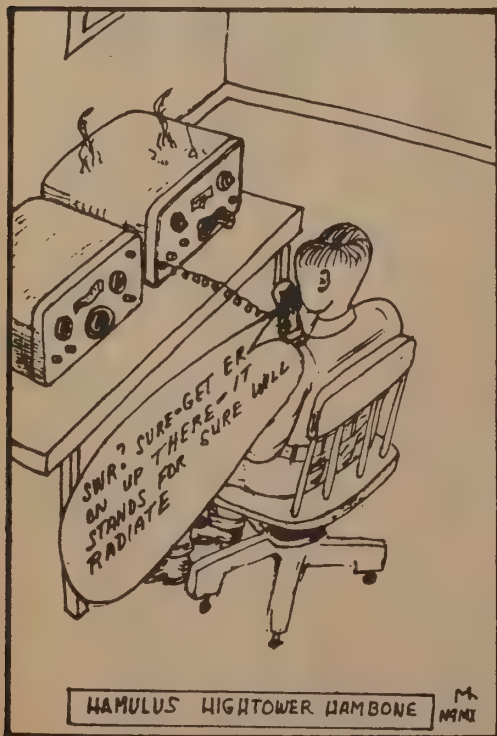
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Pentagon Amateur Radio Club

Meetings	Monthly, on the second Wednesday of the month. Noon. PARC clubroom (5B272), The Pentagon
Repeater:	K4AF/R, 444.55 MHz. CTCSS 88.5 sometimes in effect.
Mailing:	P.O. Box 47063, Washington, DC 20050
Information:	David G. Boyd - K9MX (202) 695-2020 or (703) 659-6241 or Dick Lum - NH6E (202) 697-0477 or (703) 938-9215
Packet:	145.03. The PBBS is PARC, the node PNTAGN, and K4AF raises the digipeater.
Nets:	Wednesdays, 8:00 p.m. 3.71 mHz (13 wpm); Sundays, 8:00 p.m., 3.54 mHz (20 wpm)

Thanks to Dickson Lum - NH6E, and Paul Bauer - N3DAN, the triband beam is finally back up at the Pentagon. We replaced the lightning damaged 15 meter trap several months ago, but weather kept us from re-installing the driven element. All we have to do now is to get the direction the beam is pointing to match what the rotor indicator says!

All the equipment, save the L-7, is back on line and installed in the new console. We even have an HF packet capability now, in addition to our 145.03 VHF bulletin board.



Don, KA3VNE upgraded at our last exam session and is now entitled to sign /KT. At the last exam session in Stafford, we upgraded three young high school students and licensed Greg Mullinex, an ambitious teacher who is setting up a ham club at his elementary school.

Carla Nicholson - KC4NEY has decided to hang it up and retire from the Air Force. She'll be moving to Oregon, from whence we expect lots of HF contacts with the Pentagon.

By this time next month, the club will have a newly elected slate of officers and will have sold its surplus but excellent Drake series station.

Spike - K9MX

FOUNDATION SCHOLARSHIPS ANNOUNCED

Thirty-three scholarships are to be awarded by the Foundation For Amateur Radio for the academic year 1990-1991. Awards range from \$500 to \$2000 each.

Details of the program and a list of Award Regulations will appear in the April Auto-Call. Application forms are now available upon request to FAR, with a self-address business size envelope enclosed. Application requests must be received prior to May 31 and completed applications must be returned prior to June 30. Don't delay.

Send Requests to
FAR Scholarships
6903 Rhode Island Avenue
College Park, MD20740

Shenandoah Valley Chapter #137 QCWA

Meetings: 3rd Wednesday of September, November, January, March, May, July.
Jimmy's Restaurant in the Holiday Inn on Rt 50 at I-81 Exit 80, Winchester.
Information: Secretary/Treasurer Guy Black, W4PSJ (703) 722-4952
1201 Woodside Drive, Winchester, VA 22601 Phone (703) 722-4952

Shenandoah Valley Chapter No. 137 of the QCWA met on Wednesday, January 17, with 18 members and guests.

Following business formalities, we heard that Lloyd Penrose - NC8G is responding favorably to chemotherapy and has been lunching with friends in Martinsburg. Larry Salisbury - W4LHI has returned home from the hospital with oxygen and other convalescent equipment and listens often but talks very little. His spirits are excellent.

The program was a 26-minute video supplied by The Courage Center of Rochester, MN: *Making Contacts: Making Friends*. The mission of the Courage Center, now in its 50th year, is to help handicapped people lead a fuller and more independent life. Some years ago it established the Handi-Ham program under which handicapped persons, world-wide, are helped to obtain licenses, are loaned equipment (often donated) and are otherwise helped to get on and stay on the air.

The Center develops devices and means of modifying equipment that meets the special needs of those with visual or physical impairments.

This thoroughly professional video, which rivetted the attention of members, is available on loan to any ham club. To borrow the video or make equipment donations for the use of the handicapped, write to:

Courage HANDI-HAM
Courage Center
3915 Golden Valley Road
Golden Valley, MN 55422

The Center also seeks volunteers where ever there are handicapped hams or would-be hams who can assist students and members in establishing and maintaining stations, erecting antennas, resolving technical problems and studying to pass exams. For members and associates, it publishes the quarterly *Handi-Ham World*.

The next meeting of QCWA Chapter #137 will be held on Wednesday, March 21 at Jimmy's Restaurant - the usual place and at the usual time of 5:30 p.m. for a social hour. We go out of our way to encourage guests.

Guy - W4PSJ

Southern Maryland Amateur Radio Club

Meetings: 2nd Friday of each month, 7:30 p.m.
Repeater: W3PT/R 147.15/147.75
Information: P.O. Box 273, Cheltenham, MD 20623

SMARC began its 15th year in February, 1990. The general meeting should have some surprises along with a special guest speaker.

The Tech/General license class is going very well, with many students showing up.

Mike - KQTV is conducting the class.

Many graduates of the last Novice class are starting to show up at meetings, nets, and other functions. Give them a hello!

Randy - N4QWK

MADRAS

Meetings: Second and Fourth Wednesdays of the month, 7:30 p.m.
NBC Building, 4001 Nebraska Avenue, N.W., Washington, DC
Repeater: KC3NG/R 145.450/144.850
Mailing: P.O. Box 2468 Wheaton, Maryland 20919
Information: Larry Ziecheck - N3GKZ (301) 530-8646 or 984-6112
Scott Standiford - W3YTW (301) 589-9321 or 885-4333

Things have been happening so fast at MADRAS, with so many projects nearing deadlines and not enough time. "There's never enough time," somehow when you are busy things seem to somehow get done.

It's a new crew managing the oars, rowing like mad toward the leeward side of the MADRAS activity island. Meet the new crew:

President: Larry - N3GKZ
Vice Pres: Scott - W3YTW
Treasurer: Charles - WD3IM
Secretary: Laquetta - KK4WQ
Parliamentarian: Ed - KC4FYA
At Large: Jon - KA3OVK
Congratulations to all.

This year is going to be an outstanding year for MADRAS members. We should have our 440 repeater in operation by May 1st. The crystals should be here by the time this is printed in Auto-Call. Then all we have to accomplish is the design of the interface and controller. (No problem, Hi, Hi.) The antenna will be approximately 760 feet above average terrain on the new NBC tower and will have a forward gain of 25 db.

Intertwined with this activity, we will be working toward a multi-club meeting to be held on April 11. (Place to be announced). The theme for this meeting will be "ARRL, Planning for the 1990s" The newly elected Area-three officers (Hugh Turnbull and Kay Craigie) will be presenting, and will be able to answer, all your question regarding the continuance of present bands, expanded operating frequencies and modalities you will be hearing more on this matter at your club meetings and in Auto-Call.

The Kenwood BS-8 units finally came in and now you can start assembling your low cost spectral display. A new, neat circuit for a RTTY display is in the works.

Thanks to our V.P., Scott - W3YTW) for the in-depth talk on lightning. I understand Scott was invited by other clubs to give the same talk, (I am sure it was very well received.

We are looking forward to the two session talk on meteor burst by Marty - KC3NQ. Marty's talk should be most interesting. This is what he worked at during his professional career before retiring.

Our December dinner meeting was a great social success. The French food was excellent and the spirit of comradeship was enjoyed by all.

W3GKV

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Virginia
Micro
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"Ole Virginia Hams" Amateur Radio Club

Meetings: Third Monday of each month, 8:00 p.m. Northern Virginia Coop Building
10323 Lomond Drive, Manassas, Virginia

Repeaters: Voice WA4FPM 146.97 and 224.66
Digipeater WA4FPM-1 145.09
Digipeater WA4FPM-3 223.40

Net: Each Thursday, 8:00 p.m., 146.97 and 224.66

Information: Harry Vorhauer - W4PVA (703) 368-6050
Steve Frick - N4OGR (703) 361-0008 or Metro 690-6547

Mailing Address: Ole Virginia Hams ARC, P.O. Box 1255, Manassas, VA 22110

Last October, under the leadership of Harry Vorhauer - W4PVA, a group of members of Ole Virginia Hams participated in a simulated communications emergency within the Prince William Hospital. The emergency simulated was a failure of the hospital's internal telephone system. Enough messages were handled to successfully demonstrate that hams could be useful during such an emergency.

On January 11, the hospital was receiving an upgrade to their telephone equip-

ment that required their internal service to be shut down for about an hour. Due to the simulated session of last October, the hospital knew that hams could help. Thanks to the consistent efforts and fine planning by Harry Vorhauer (Prince William County Emergency Coordinator and President of Ole Virginia Hams) the members of OVH were prepared to help. Much of the preparation had preceded the request.

Continued on page 50

Metrovision

FAST SCAN - COLOR - ATV

Meetings: Quarterly: Next meeting March 8, 7:30 p.m. QTH of WB3EPX

Repeater: WA9GVK/4 (Video and Audio) 425-431 MHz in; 438-444 MHz out
Also accessible on 144.970, simplex, audio.

On-the-air: Sundays at 8:00 p.m.

Mailing: Metrovision, Inc., P.O. Box 8231, Falls Church, VA 22041

Information: Dick - WB3EPX (301) 439-8135
Gene - AD3F (301) 774-5307

The first Metrovision meeting for 1990 will be held at the QTH of Dick - WB3EPX on Thursday, March 8 at 7:30 p.m. At this meeting, the club will discuss the events planned for the year, and update the status of the repeater. We encourage all of our members to attend this meeting if possible. The directions to the meeting place are as follows:

The address is 2600 Muskogee Street, Adelphi, Maryland. From the Beltway, get off at the exit marked

New Hampshire Avenue - White Oak. Go to the second traffic light on New Hampshire Ave., which is Powder Mill Road. Turn right and go to the next traffic light and turn right onto Riggs Road. Go over the Beltway and down the hill and turn left at the first street, which is Muskogee. Go through the first intersection and 2600 will be the second house on the left. Look for a blue/gray Toyota Tercel with WB3EPX license tags parked in front.

Continued on page 50

Baltimore Amateur Radio Club

Mailing address: P.O. Box 95, Timonium, MD 21093-0095

Greater Baltimore HAMBOREE AND COMPUTERFEST

The Baltimore Amateur Radio Club, Inc., (BARC) will present the 1990 Greater Baltimore Hamboree and Computerfest on March 31st and April 1st at the Maryland State Fairgrounds Exhibition Complex in Timonium, Maryland.

The large dealers' display area and indoor flea market will be in three modern exhibit halls. Amateur radio, personal computer, and small business computer dealers will be featured. There will also be a large hard surface outdoor flea market area with loads of electronic bargains. Food service and acres of free parking will be offered. Gates open at 8:00 a.m. each day.

Parking is available before 8:00 a.m. Admission is just \$5 for both days, children under 12 free. Overnight accommodations are available through our information line. The fairgrounds are located at I-83 exit 17, two miles north of I-695 just north of Baltimore.

For additional information and display space reservations, contact GBH&C; P. O. Box 95, Timonium, MD 21093-0095, or telephone 1-800-HAM-FEST anytime 24 hours a day. In Maryland telephone (301) HAM-FEST. Use a Touch Tone phone.

Carroll - K3HZU

Ole Virginia Hams - Continued

Participating in the effort were:

Jim - WD4OJY, Keith - KM4AA,

Steve - N4OGR, Joe - AB4QV,

Jay - NS5N, Ken - KM4KUH,

Butch - W4HJL, Harry - W4PVA,

Tim - KB4NR, Jim - WA2QEJ,

and Rick - N4VZT: All were needed.

Others had offered to help and were available on a standby basis.

This activity also highlighted the value of a weekly net with a good level of participation by club members and other interested hams. January 11 was a Thursday, the day of the OVH Weekly Net. The net was cut short by a few minutes since the telephone shutdown was scheduled for approximately 9:00 p.m. The net was responsible for a number of folks wanting to help and being available on a standby basis.

Mike - N4REI

Metrovision Amateur TV Club - Continued

I will be monitoring 144.970 to talk you in. Light foods and beverages will be served.

With recent fine tuning to the repeater, the new transmit/receive frequencies are doing much better. Along with these recent repeater adjustments, and work done at their own QTH's, both Gene - AD3F and Skeeter - WA3UDY have much better video and color.

Metrovision needs someone to volunteer to have the June picnic/meeting at their QTH.

If you can help, please contact Dick at the above telephone number.

We would like to thank Bernie - WD4O for showing the launch of the French Ariane Rocket via satellite television on the ATV net. We also thank Bruce - WA9GVK for showing his video tape from Japan. The VCR is a great machine to use in the field of ATV.

See you on ATV.

Mike - N4REI

Mt. Vernon Amateur Radio Club

Meetings: Second Thursday of Each Month, 7:30 p.m.
Mt. Vernon Governmental Center, 2511 Parkers Ln., Alexandria
Repeater: WB4PDP/R 146.055 input 146.655 output
Nets: Every Tuesday at 8:00 pm (0100 UTC Wednesday's)
Starts on 2-meter then moves to 10-meter on 28.405
Information: Chris Morrow, W4WYL (703) 765-5964
Training Classes: John Forrest, NZ4A (703) 971-3905
Mailing Address: c/o Chris Morrow, W4WYL, 7408 Recard Ln., Alexandria, VA 22307

January's program was presented by our President, Steve Hood KB4WKK and was a combination of a video tape and show-and-tell. The video tape was about FEMA/ARRL emergency preparedness. For show-and-tell, Steve brought in a FEMA portable HF rig. Thanks very much Steve for standing in for the person who was unable to make the presentation -- good job!

January's meeting was great for several reasons. First, we had many new members and visitors at the meeting. WELCOME to the new members: Ed Burchell NØHQY,

Frank Mackey N4GUS, Jim Barnes KB4WBO, Dave Souza KAØLZD, Mike Card (no call yet), Steve Pearson (no call yet) and Cecil Candelario NQ3C. We also warmly WELCOME Drew Daffron KC4IUP, Pat McCarthy (no call yet) and Carla Coale (no call yet) who attended as visitors - we all hope you will join our club in the future. Another reason January's meeting was great was the arrival of the club T-shirts, hats, bags and jackets. Thank you Steve WB4EEA for getting these things and for getting them to us quickly.

Continued on page 53

Anne Arundel Radio Club

MEETINGS: 8 PM 1st and 3rd Thursdays, Davidsonville Family Recreation Center
Queen Anne Bridge & Wayson Roads off MD Rt. 214 near Annapolis.
ON THE AIR: Thursdays at 2030 local time when there is no club meeting. 147.705/105.
Tuesdays at 2030 local time on 28.410.
The Chesapeake Bay Weather & Traffic Net on 147.705/105 at 1100 and
1500 every weekend day and public holiday from April 1 to November 15.
MSN (Maryland Slow Net) every evening at 1930 on 3.7170 MHz.
W3VPR Packet Bulletin Board on 145.09 MHz.
W3VPR Packet Bulletin Board on 223.40 MHz.
ADDRESS: P.O. Box 308, Davidsonville, MD 21035
INFORMATION: Margaret (Holly) Bevan, 301-923-0229

The recently installed officers and directors of AARC have been busily reorganizing and planning the club agenda for 1990. It promises to be a busy and an exciting year.

The 1990 Novice Course is underway. There were more than 60 applicants on the list a week before the class was to start on Feb. 10. They all seemed to be genuinely interested in getting a HAM ticket. Bob

Bruninga - WB4APR achieved the final milestone in his ATV efforts when on January 14th signals from the Baltimore BRATS ATV repeater were received and retransmitted in the Annapolis area. This means that Annapolis viewers will be able to see any activity on the BRATS repeater, as well as the local activity. Two more improvements are planned for the ATV repeater function. They

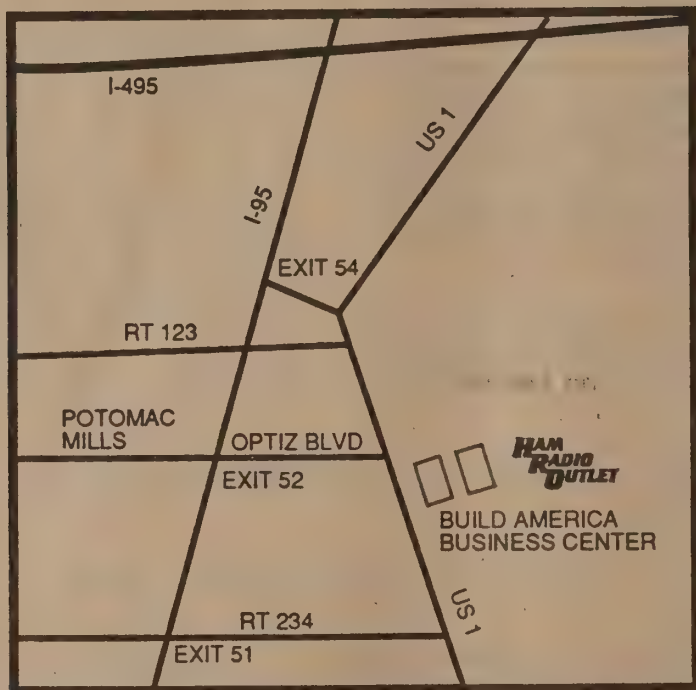
Continued on page 53



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RCARA Alumni Net:	7.23 MHz, Mondays 11:00 a.m.
RCARA LUNCHEON:	Wednesdays, 11:15 a.m., Anchor Inn, Wheaton, MD
Meetings:	7:30 p.m. the third Friday of each month at Vitro Labs
Mailing Address:	P.O. Box 1913, Silver Spring, MD 20915

Please use the new zip code of 20915 for any future inter-club correspondence with the Rock Creek Amateur Radio Club.

The November meeting featured Herb Lay - N3CDR elaborating on his November QST article. He discussed his modifications to the original Mini-Miser's Dream Receiver along with the various published articles he recommends as background material.

In conclusion, he demonstrated the "steep selectivity" curve possible as he tuned-in one of his operating receivers.

Rock Creek ARA is listed as a Special Service Club with about 90% individual ARRL memberships, including Life Member Harold Holmes - N3BRM.

Boyd Nelson - KZ3Z represented the Rock Creek ARA at the Amateur Radio

license examinations on December 9th at Montgomery College. Boyd reported that 23 applicants applied for license upgrades with the resultant of 7 going to Technician, 4 to General, and 1 to Advanced class. Also, 2 passed the Novice tests.

Bernie Pettit - W9BZL has started another Novice class sponsored by the Montgomery County Recreation Department, and should graduate several upgrade candidates for future examinations.

Mary Buchheit - KA3THQ has abandoned the "world of commerce" by returning to the University of Maryland for a major in elementary education. We miss her cheery daily greetings through 2-meters. We offer congratulations for her new choice of profession.

Bob - KD3IO

Anne Arundel Radio Club - Continued

are to receive and retransmit the Metrovision ATV repeater signals from Alexandria and the shuttle retransmissions from Goddard.

Bob presented a very interesting and informative program on ATV at the January 18th club meeting -- with live demonstrations.

Bill - KA3VNG and Marti - KA3VNL Supp are both proud upgraders to Tech.

Holly - N3BMB

Mount Vernon Amateur Radio Club - Continued

The third reason January's meeting was great was the turnout. I obviously crowed too soon when I raved about the November meeting - January brought 61 participants. That's getting very close to half the members. So to keep a cool head - Wow What A Turnout!

Happily, there have been no emergencies since December. The weather has been very kind to us. Now it's time to start thinking about field day!

We hope to see everyone March 8...

Marci - KM4VM

Fauquier Amateur Radio Club

Meetings: Second Tuesday of each month, 7:30 p.m.
Shadow Lawn Center, Warrenton, Virginia
Repeaters: 147.165 Voice, 145.070 Packet
Net: Each Wednesday, 9:00 p.m., 147.165
Information: Bob Taylor, KC4CVG. (703) 439-2786 (H) (703) 642-6070 (Work)
Mail Address: Route 1, Box 445, Amissville, Virginia 22002

The Fauquier Amateur Radio Club's first meeting of the year was held at the Shadow Lawn Center in Warrenton, Virginia, on the 9th of January. Election of officers for the club, to serve for the year 1990, was held. A list of the 1990 slate of officers was listed in the January edition of Auto-Call.

Radio theory training classes for the Technical/General Amateur classes of license are currently in session. Classes are held at 7:00 p.m. each Wednesday at Vint Hill Farm Station. Three recently licensed Novice class students are attending the upgrade classes. The instructor is Bill Mills - KC5PF.

Frank Ross - W4NHJ, Bob Taylor - KC4CVG, and Carl Bushue - KA9AJI, are working on a modification to an inexpensive commercial VHF receiver. The modification will convert the VHF receiver to an alert alarm receiver set to the club's 2-meter repeater output frequency. When the project is completed, club members will have a small receiver that can be placed next to a bedroom nightstand and used like an alarm clock for emergency alert notifications. Access codes will be used to key the club's repeater and to activate the receiver's alarm circuit.

Bill - KC5PF

Shenandoah Valley Amateur Radio Club

Meetings: First and third Fridays of each month at the SVARC clubhouse
on Grace Street in Winchester, VA. 7:30 p.m.
Repeater: 146.22 in 146.82 out
Club Address: P.O. Box 139, Winchester, VA 22601

I am happy to report that the various committees are at work. Virginia - WA4QWC is working on bringing the club history up to date. Joann - WB2CMV is working on the Hamfest and Guy - W4PSJ is planning for training classes.

The meeting of January 19 was devoted to the showing of a videotape, *Making Contacts, Making Friends*.

This tape is available through the Courage Handi-Ham System. The program was well received. Many of us were not aware of the work of the Courage Center. This is a fine program and well worth the time of viewing it.

For the first time in a long time we don't have a member in the hospital. We do, however, have some on the sick list. This includes the repeater. Mike - W4ACC reports that he and his group will make the repairs as soon as possible.

The Board of Directors of SVARC had a busy month in January with several work sessions. We hope that, with one more, we can have our ideas ready to present to the membership. We are looking forward to an exciting year as well as a busy one if our proposals are approved by the members.

Walt - WA4UVU

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Full name and address must be provided with each ad but need not be published. No ads will be accepted over the telephone and all ads must be pre-paid. Estate sales for Widows Assistance handled by a FAR club will be published without cost. Since no effort is made to investigate advertisers, no warranty can be implied.

Copy must be received by the 5th of the month preceding publication.

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SST T4 Ultra Tuner	\$35
Homebrew PS - four 866 Jr tubes	\$35

All prices are negotiable

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FOR SALE: KENWOOD TS530S with SSB and CW filters installed. Excellent condition - \$550; MC-50 microphone - \$30; Heathkit electronic keyer - \$30; Murch transmatch - \$40. Phone Andy - WA4GSV (703) 549-5118, Alexandria, Virginia (04)

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FOR SALE: KENWOOD 231-A 2-meter mobile rig. Two months old, used only few times - \$300 or best offer. Hershal (202) 226-7536 at work, (202) 363-8593 home. (03)

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Speaker:

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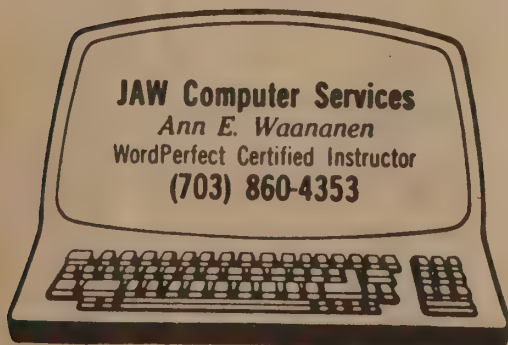
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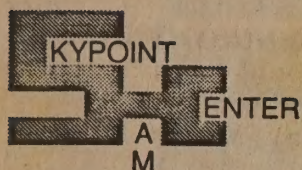
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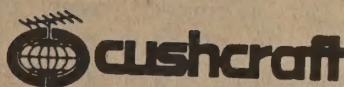


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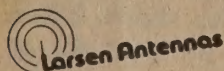
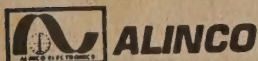
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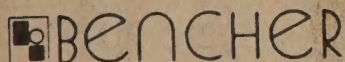


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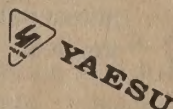
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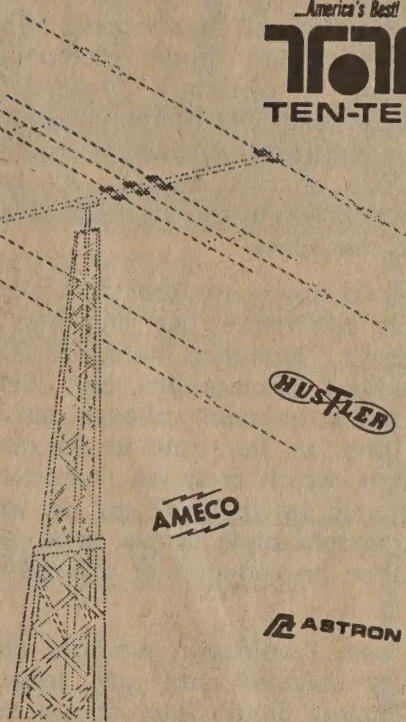
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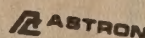
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In determining space requirements, figure 80 12-pitch characters per line and 60 lines per page including the space taken up by headings, photographs, etc. Either black-and-white or color photos can be used as long as the contrast is good. Master copy, which is to be reproduced directly, should be in black ink on white paper and should be in proper page ratio. Any copy can be reduced or enlarged as desired.

Columns from Foundation member clubs are eagerly solicited and any items of general Amateur Radio interest are most welcome. The editor does reserve the right to edit or reject any portion of any copy submitted and to make minor changes to make copy fit available space.

SHACK SALES

Deadline for copy is the 5th of the month preceding the publication date. Shack Sales will **NOT** be accepted over the telephone. Full address must be provided for our reference but need not be published. Each ad must include the call sign or the full name of the advertiser. If the full address is not included in the ad, we prefer to include the city along with a telephone number so that readers will know whether a long-distance charge is involved. The entire telephone number including city and state is counted as only one word. We do not count postal zip codes. Otherwise, each word, abbreviation, model number or group of letter/numbers is counted as one word. Remittance must accompany each ad.

See next column for additional information on advertising. For further information, phone the Auto-Call editor at (703) 536-8469, McLean, VA.

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Non-commercial advertising of Amateur associated equipment is available to subscribers of Auto-Call at a rate of 3¢ per word with a \$1.00 minimum. Commercial vendors and non-subscriber rate is 17¢ per word with a \$5.50 minimum.

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DISPLAY ADS are "boxed" and may contain artwork or photographs. They may be placed along with the Shack Sales or displayed in other sections of the magazine. Requests for specific locations will be honored if practical but cannot be guaranteed.

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4	5 DOS	6 Antietam PG Wireless	7 BARC MARC	8 Mt.Vernon MetroVision No VA ARC	9 Alexandria SMARC Vienna	10
11 MetroCom <u>EXAMS</u> Takoma Park Baltimore	12 PVRC	13 APL FARC	14 Laurel (Inf) MADRAS Pentagon --FAR--	15 Anne Arundel	16 RCARA Shenandoah	17 Cap. City Tri County
18	19 Ole VA Hams SPARC	20 Antietam Arlington Woodbridge	21 BARC Goddard MARC QCWA #137	22 St.Mary's	23 New Carrollton Alexandria Vienna	24 <u>EXAMS</u> Laurel
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